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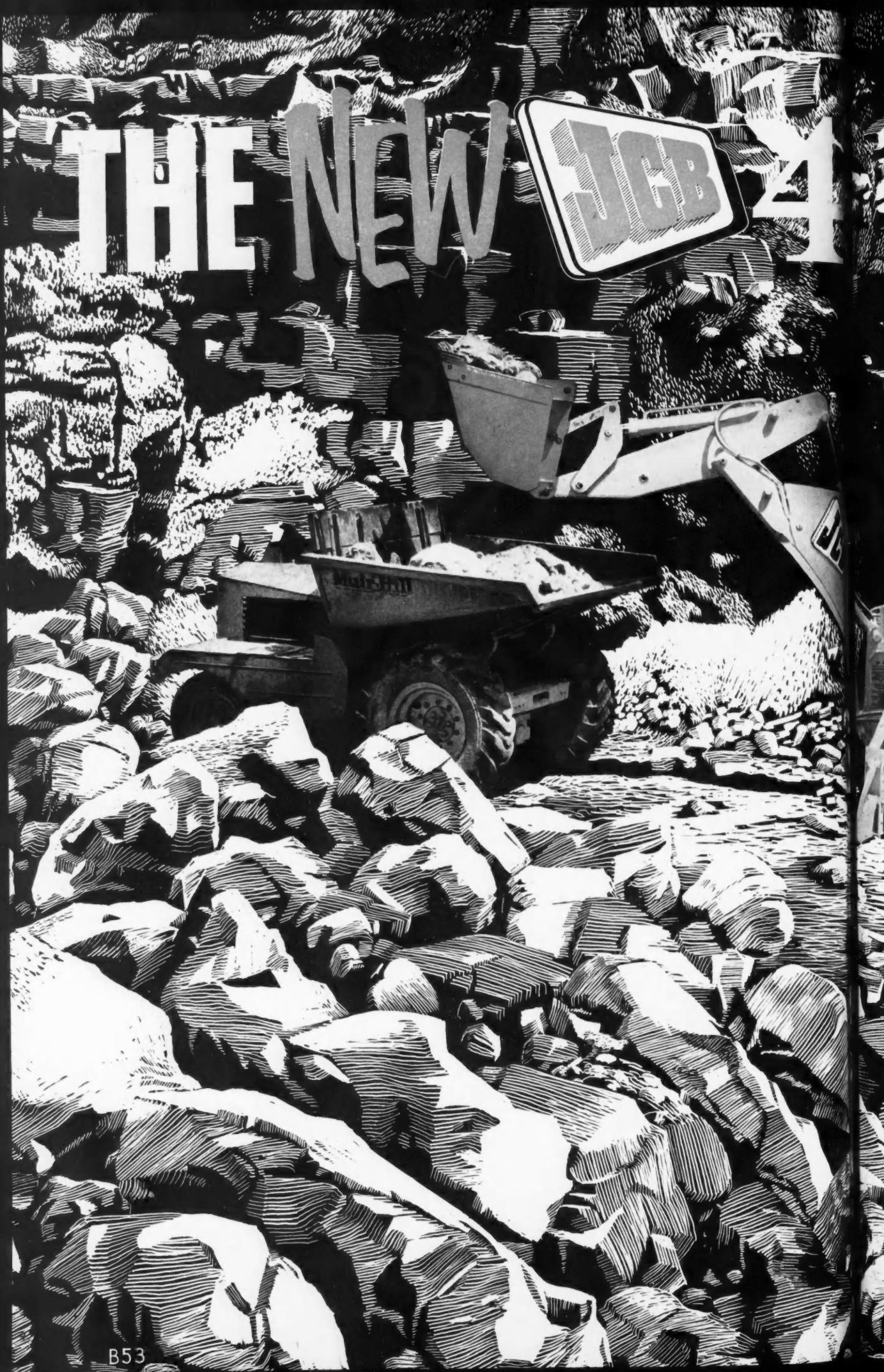
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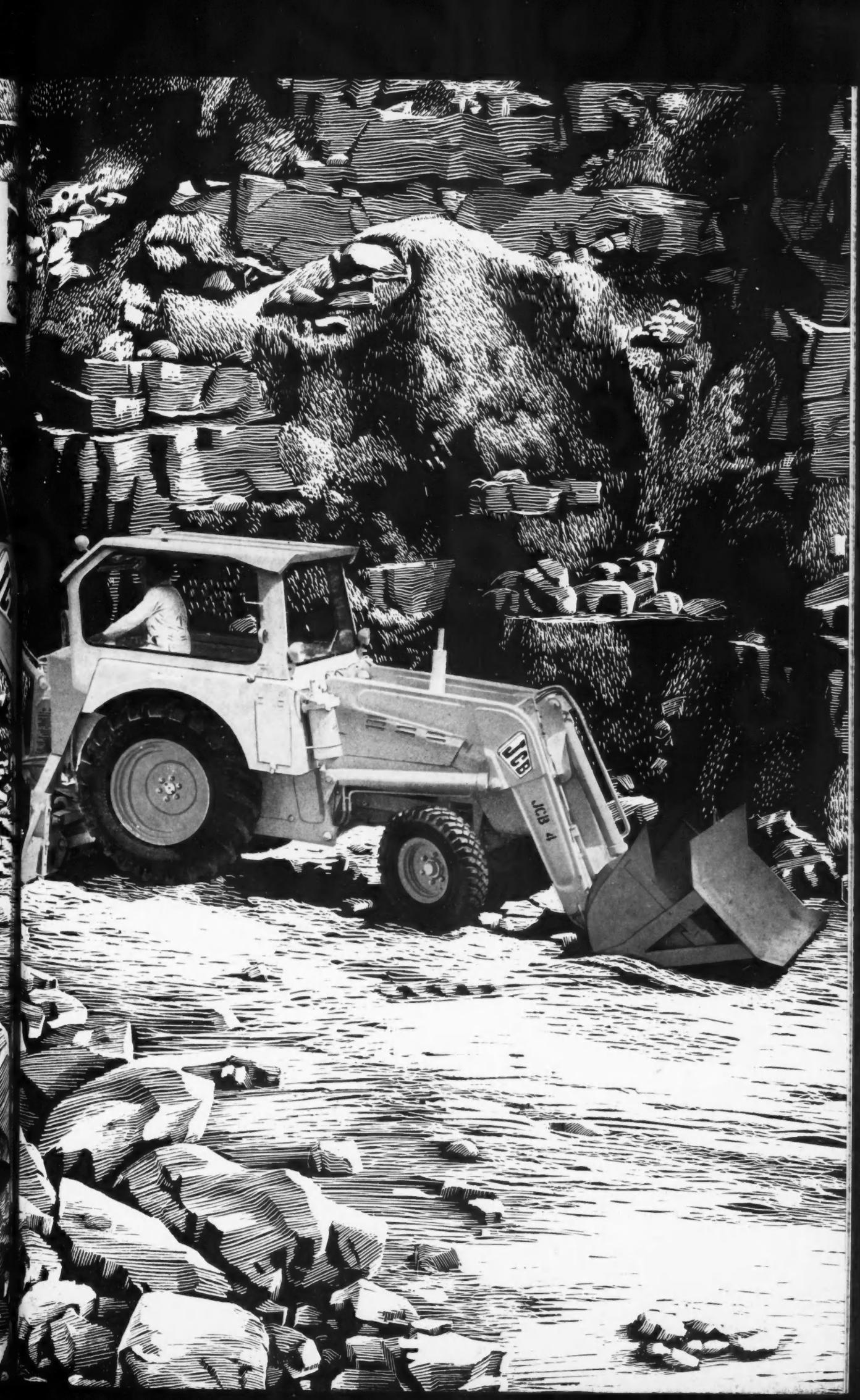
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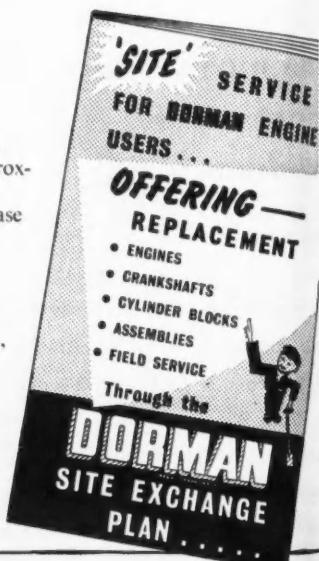
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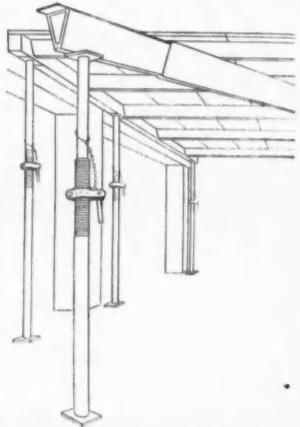
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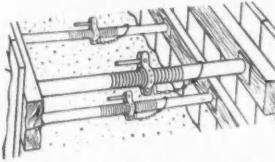
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For details send for list 6017—it's full of information.

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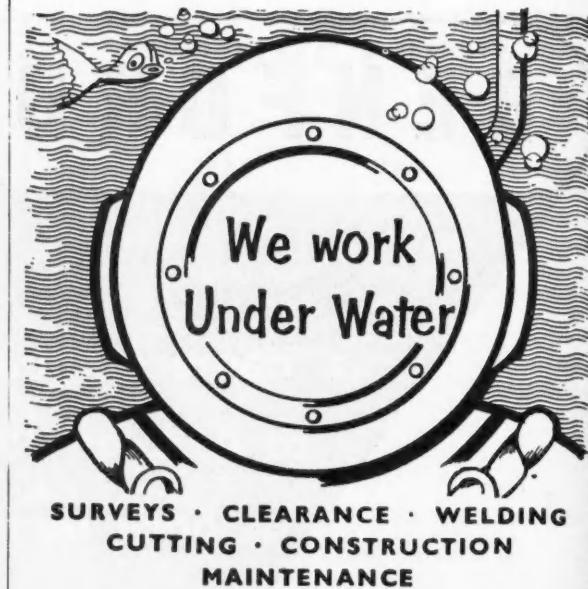
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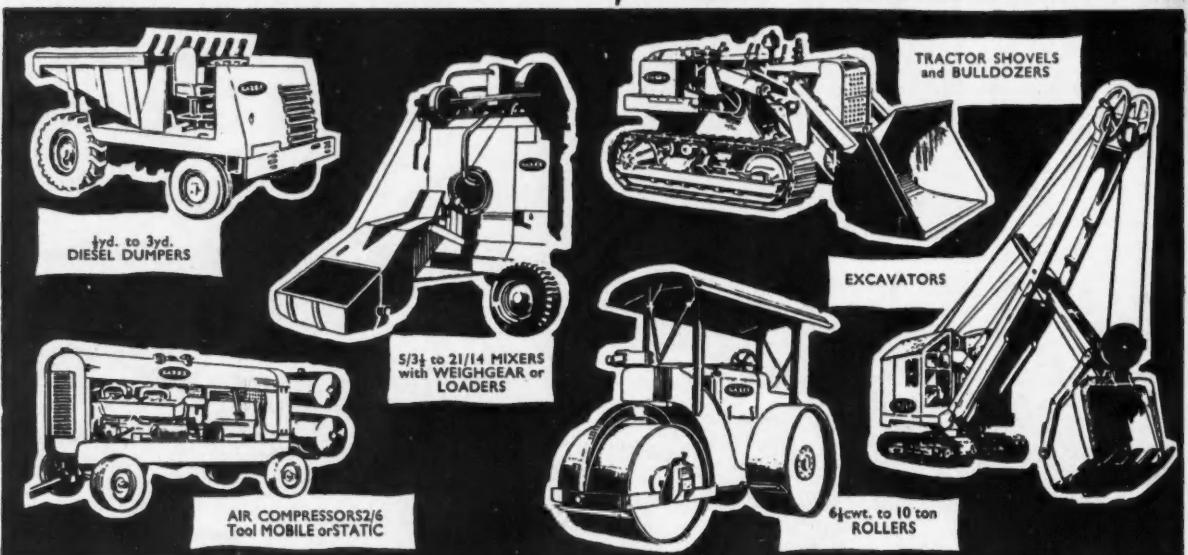
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A EUCLID TS-24 Twin Power Scraper near the top of the 1 in 3 gradient hill.

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TS-14
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"Twin"

* heaped capacity at 3:1 is 16 yds., at 1:1 slope 20 yds.

HERE'S BIG NEWS for scraper users. The many cost cutting advantages of all-wheel drive are now available in a medium-size scraper, the Euclid Model TS-14. With Twin-Power and a total of 280 h.p. this new "Euc" has already proved itself an outstanding performer. A *one-man, one-machine earthmoving spread*, it gets more work done at lower cost than any other scraper of comparable size . . . its high productive capacity brings a better return on investment.

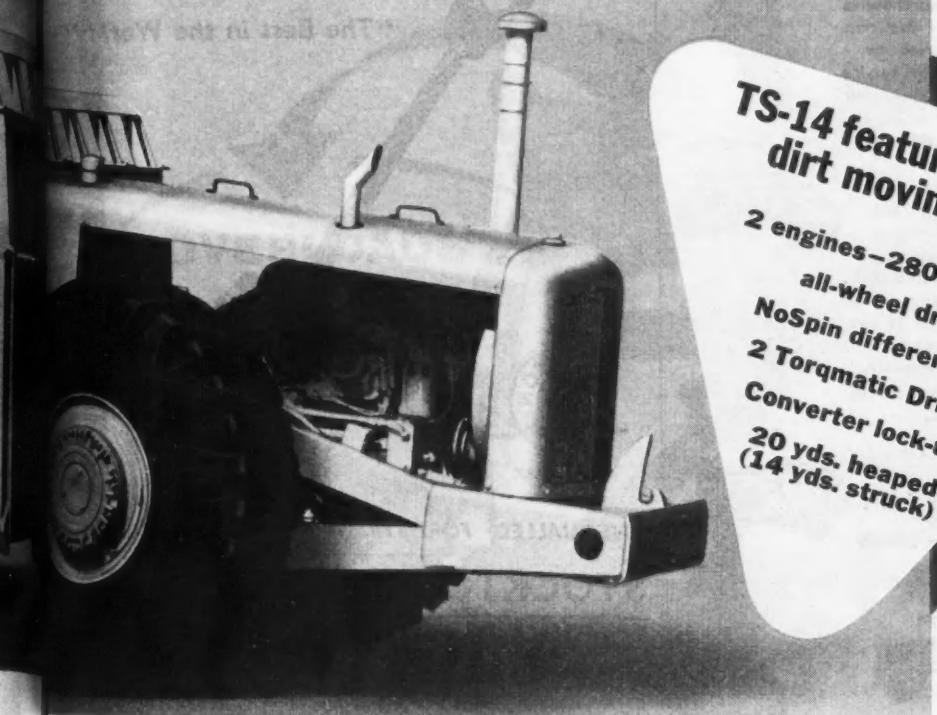
Like the widely used 24 yd. "Twin" this new Euclid has a separate Torqmatic Drive and power train for each axle. It self-loads in practically any scraper material and with a pusher is a big producer on even the toughest jobs. There's plenty of power and traction to pick up a heaped load in a hurry.

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in this 14 yd.* scraper!



**TS-14 features that cut
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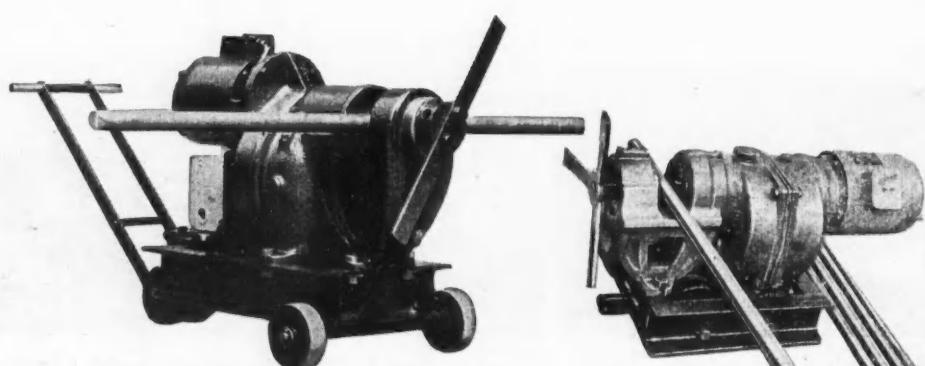
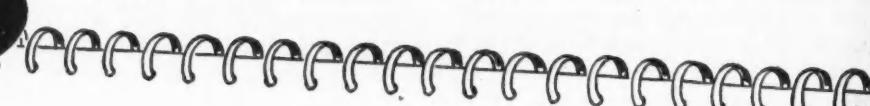
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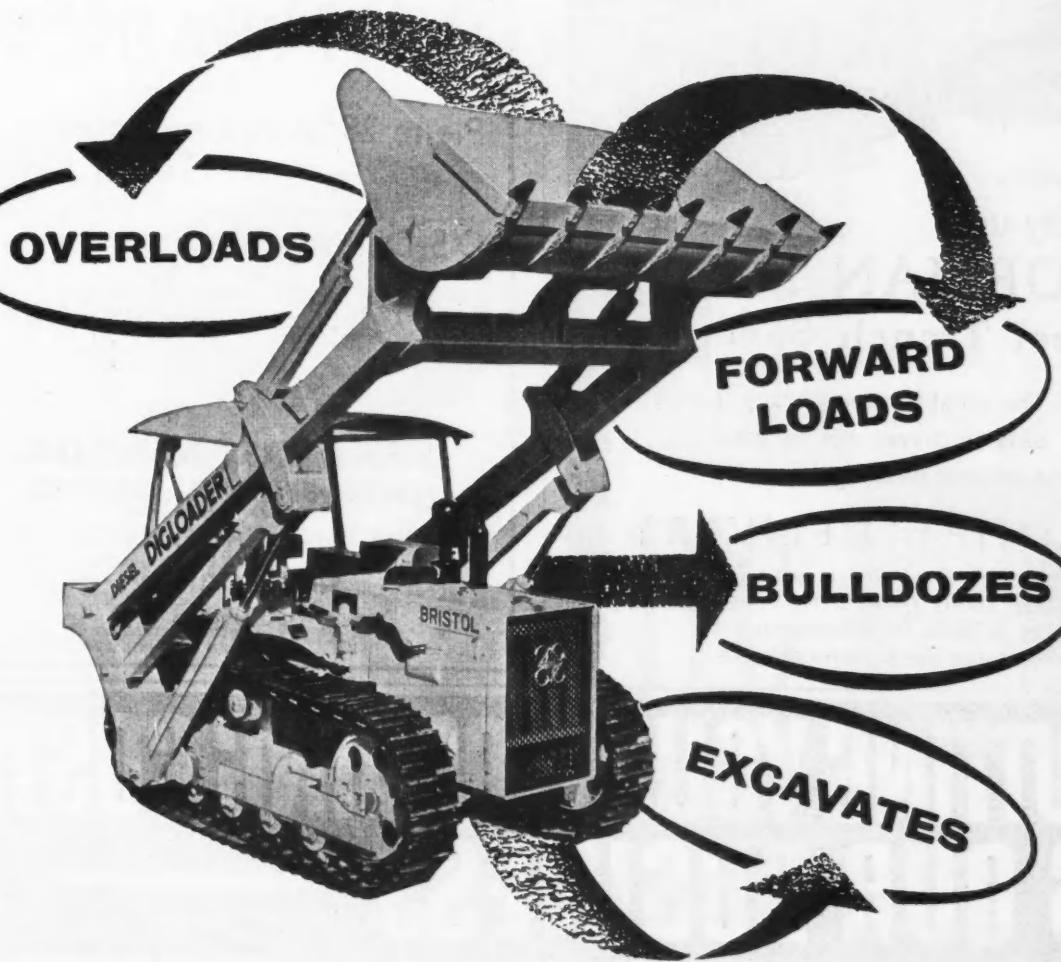
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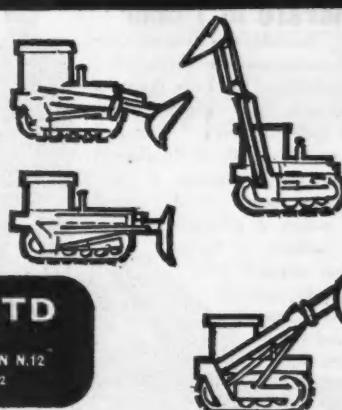
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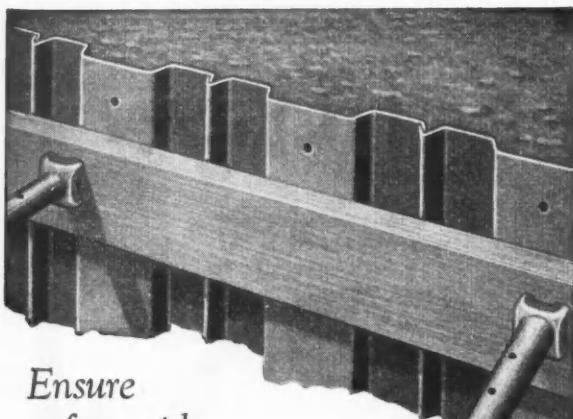
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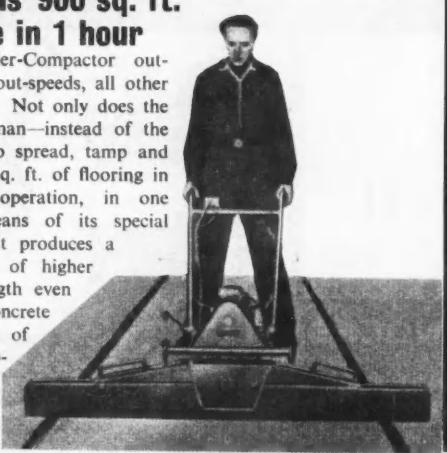
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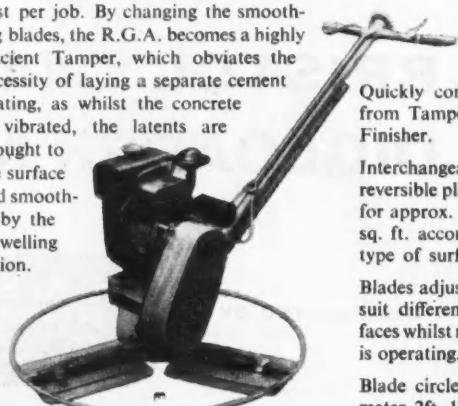
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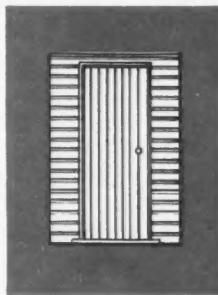
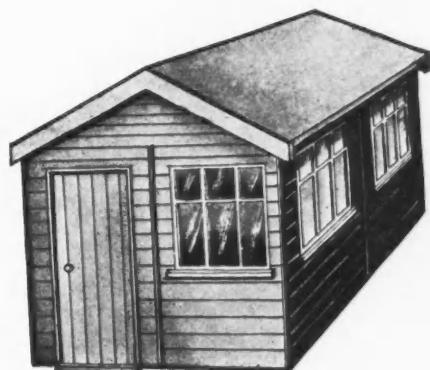
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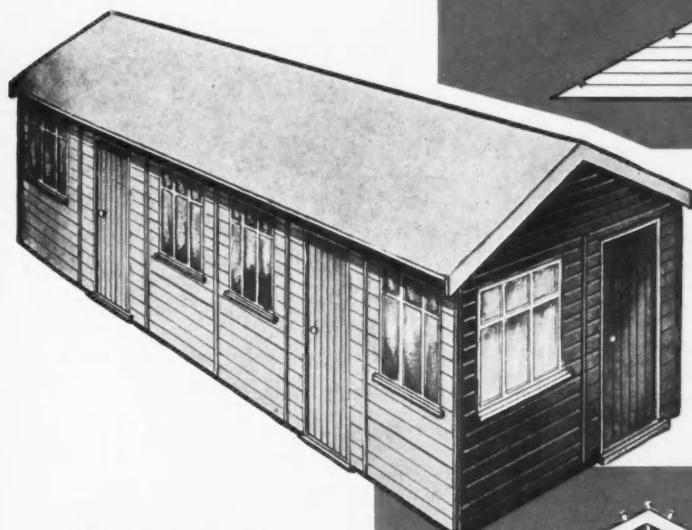
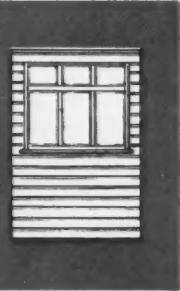
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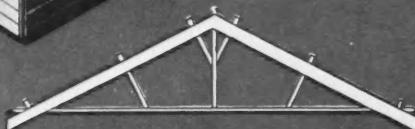


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SPECIFICATION

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- Skip.** 3/16" thick sheet steel, electrically welded and braced where required. Capacity: 27 cu. ft. water level. Speed of lift: 7 seconds. Loading height: 4 ft. Maximum payload: 30 cwt.s.
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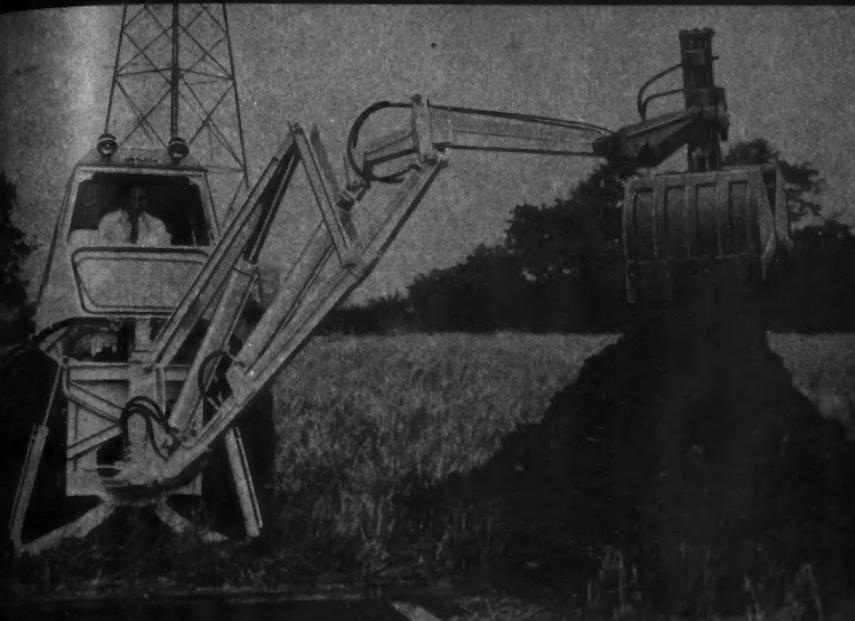
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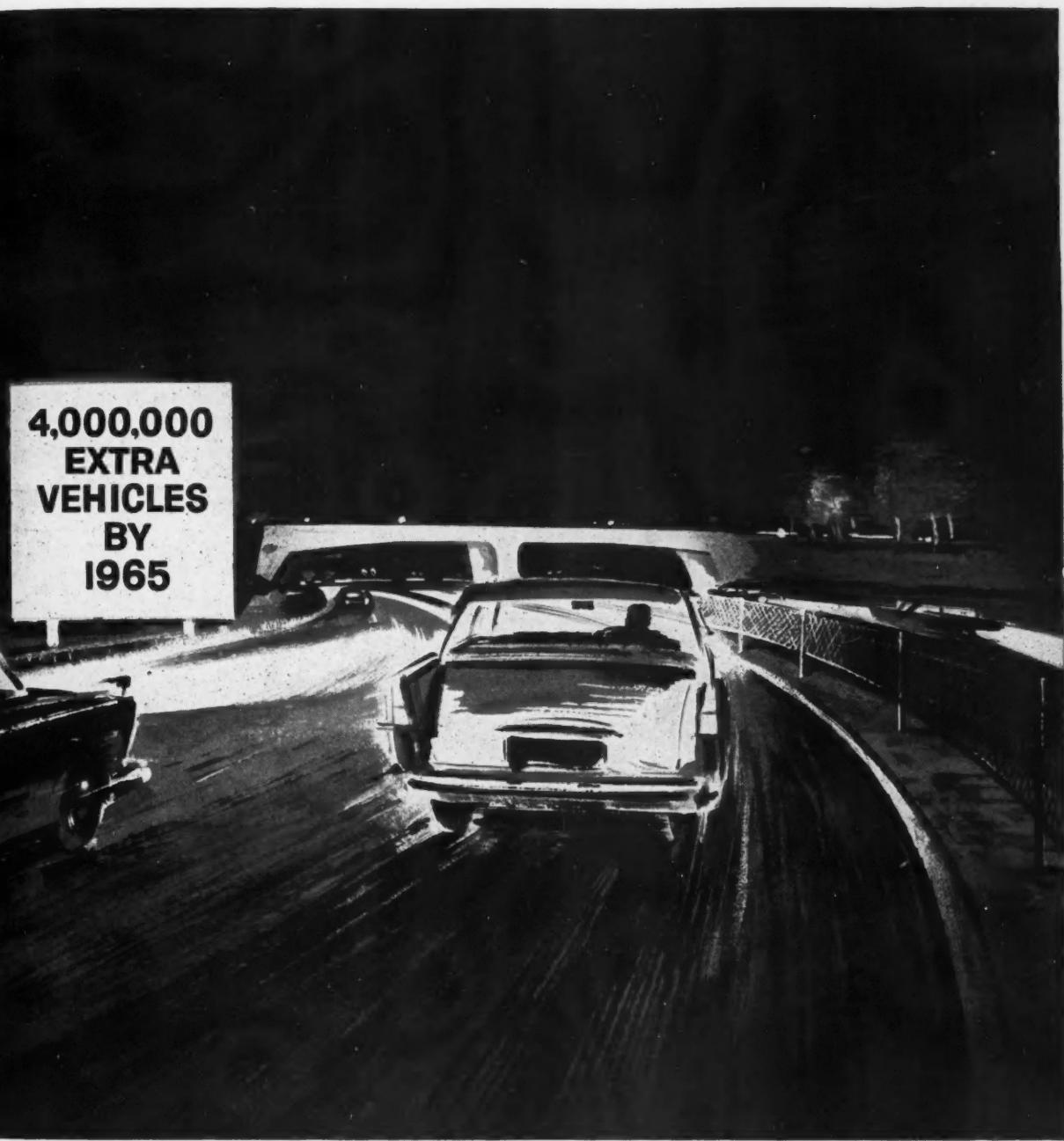
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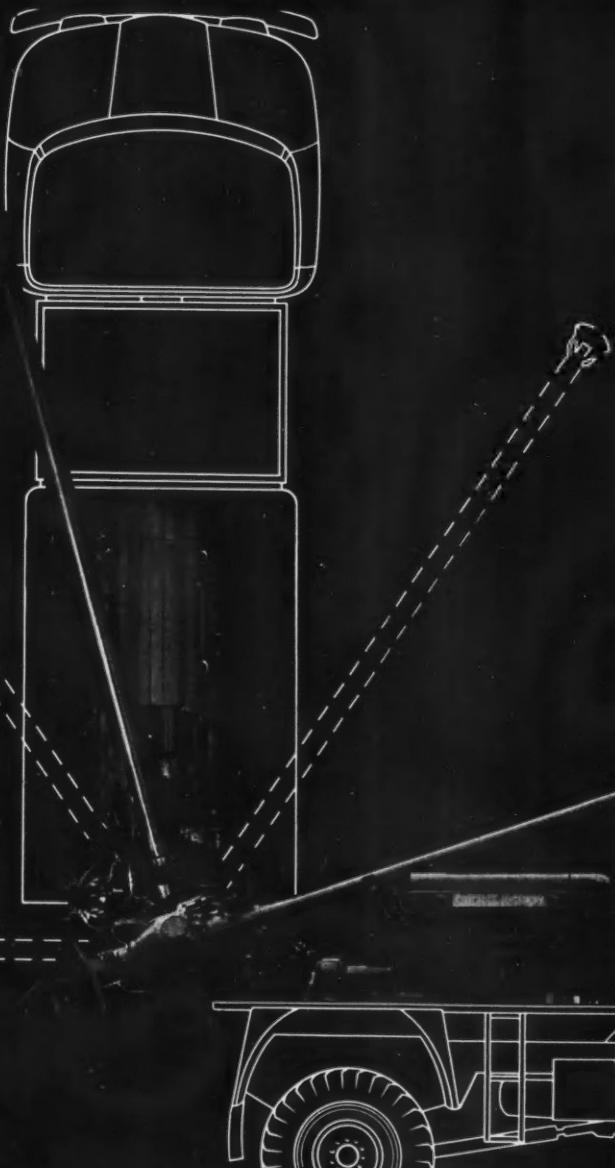
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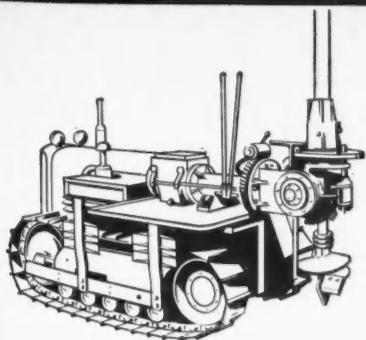
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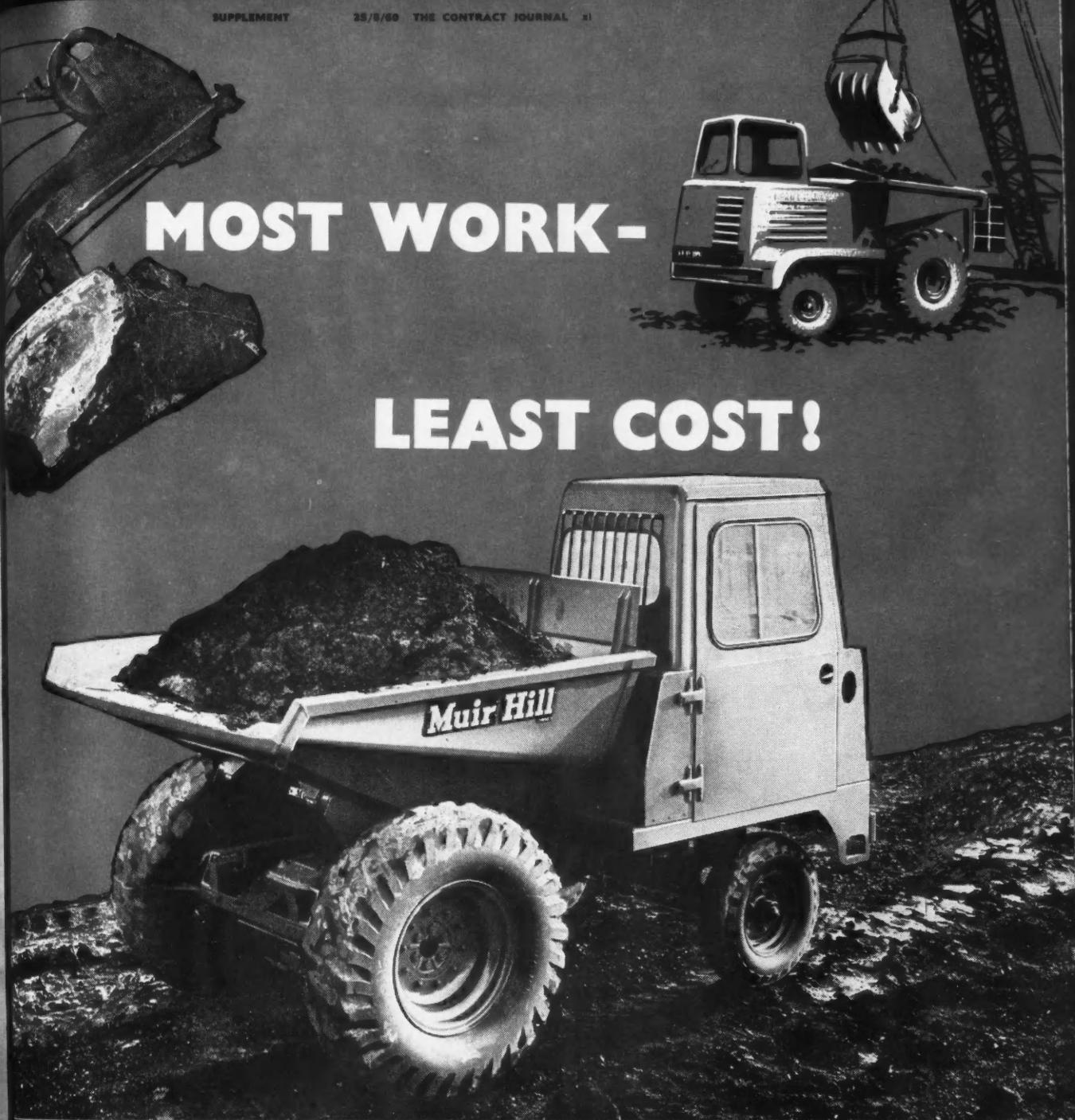
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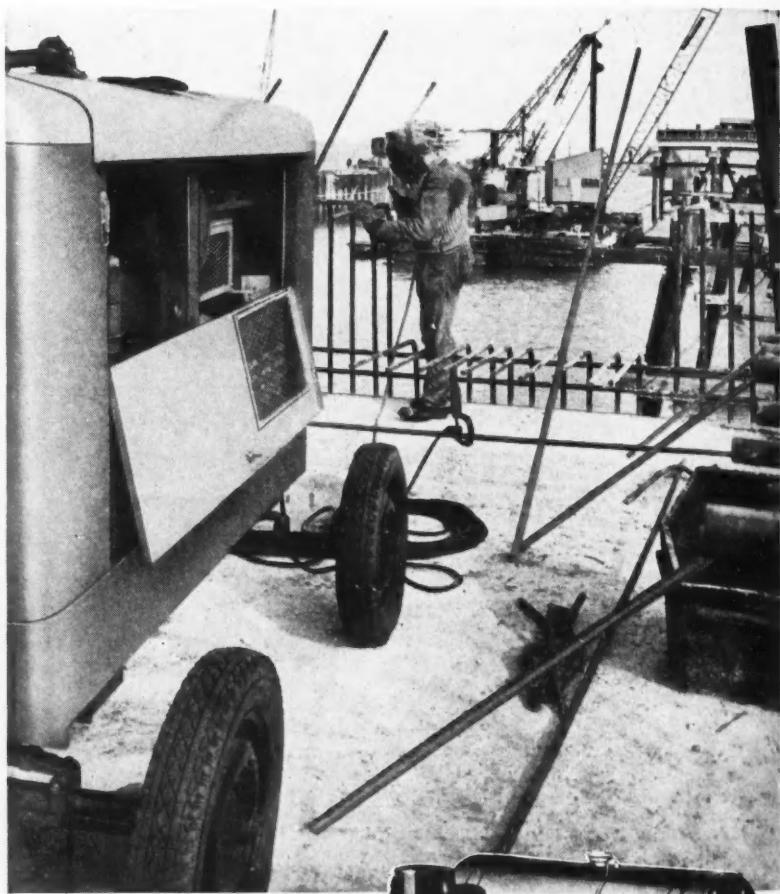
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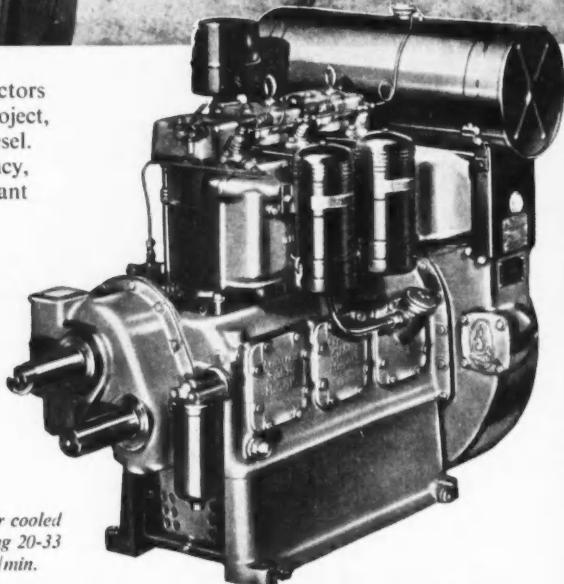
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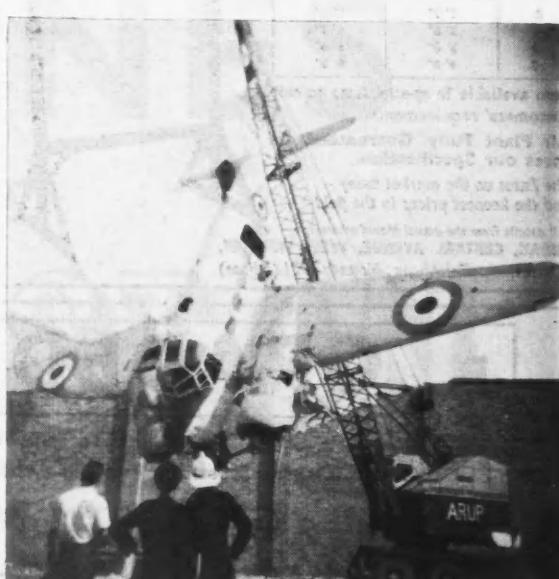
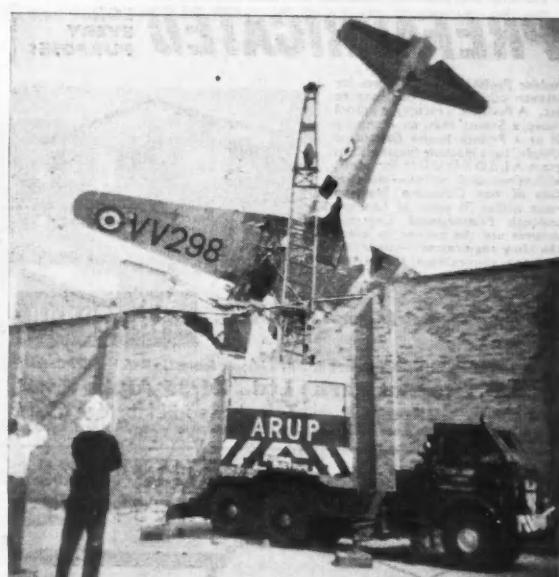
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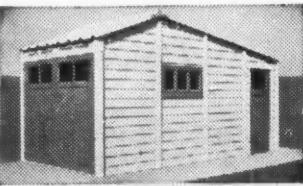
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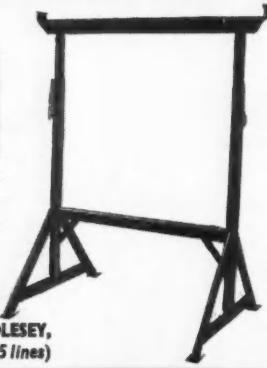


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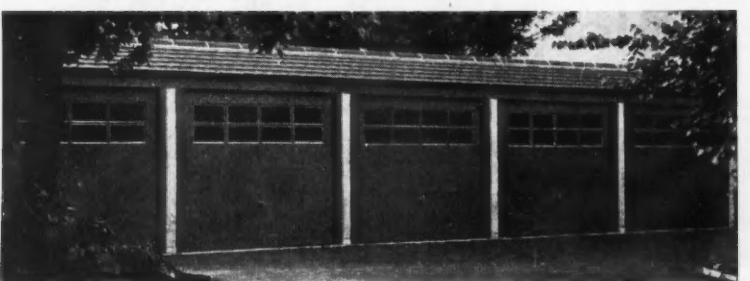
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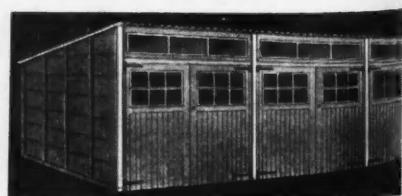
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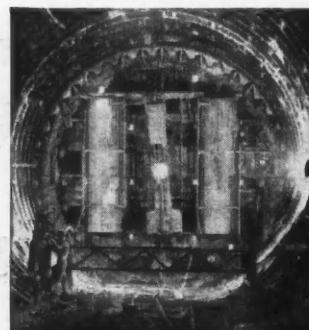
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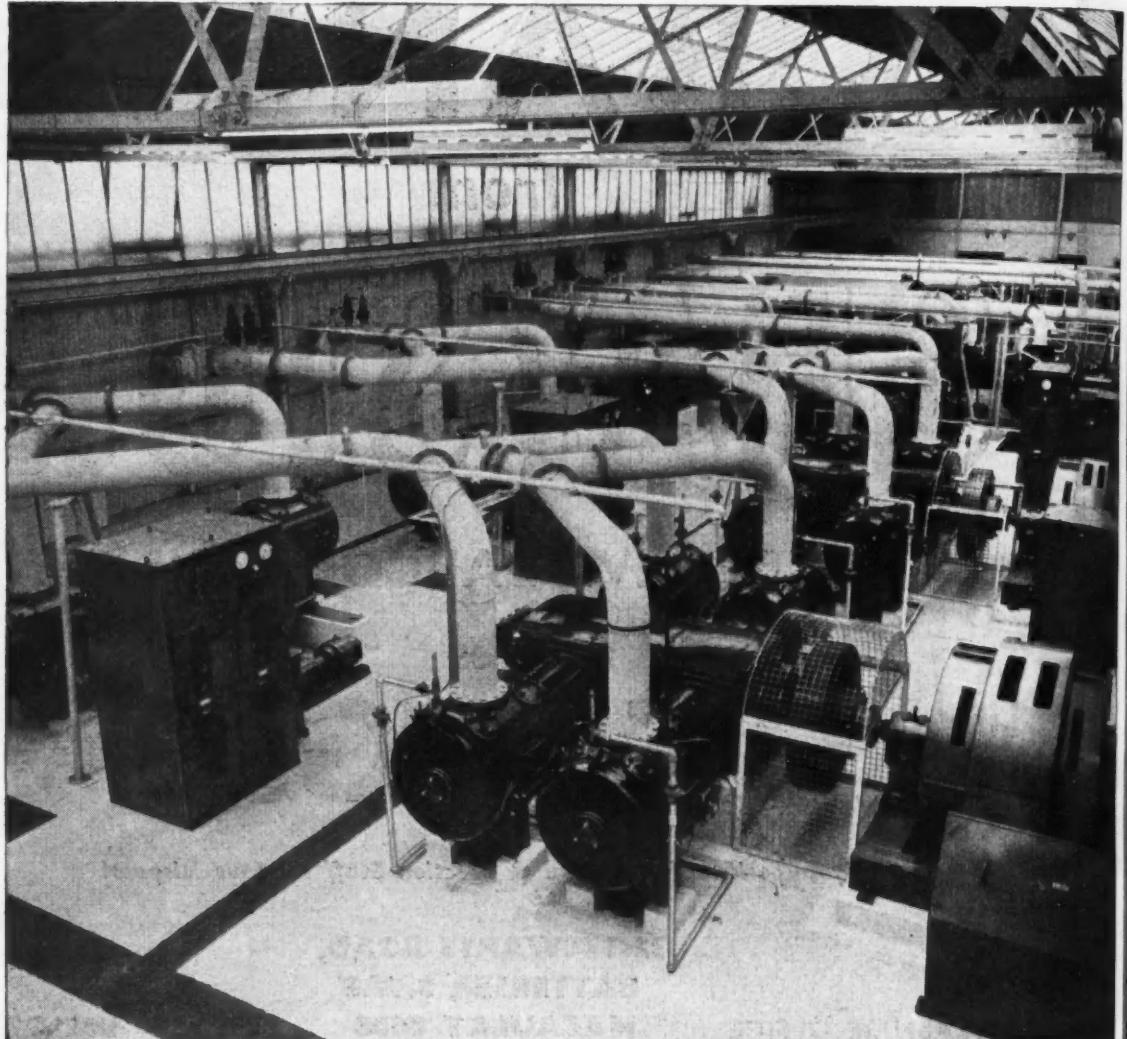
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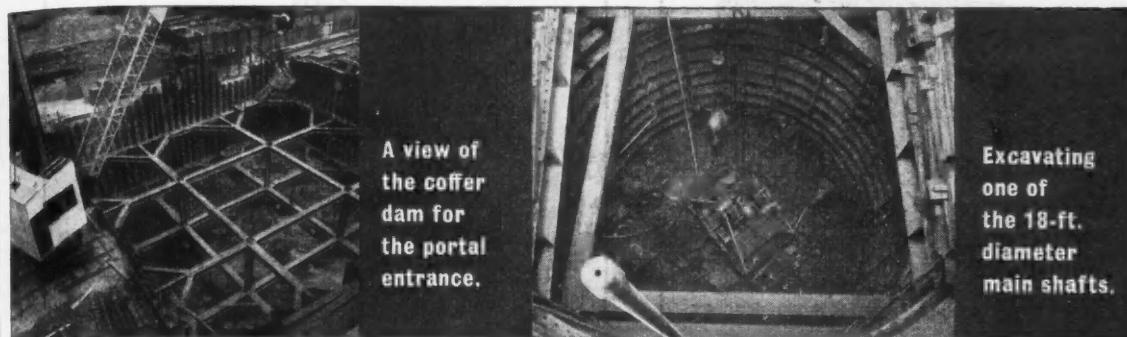


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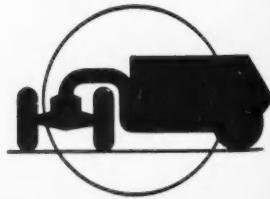
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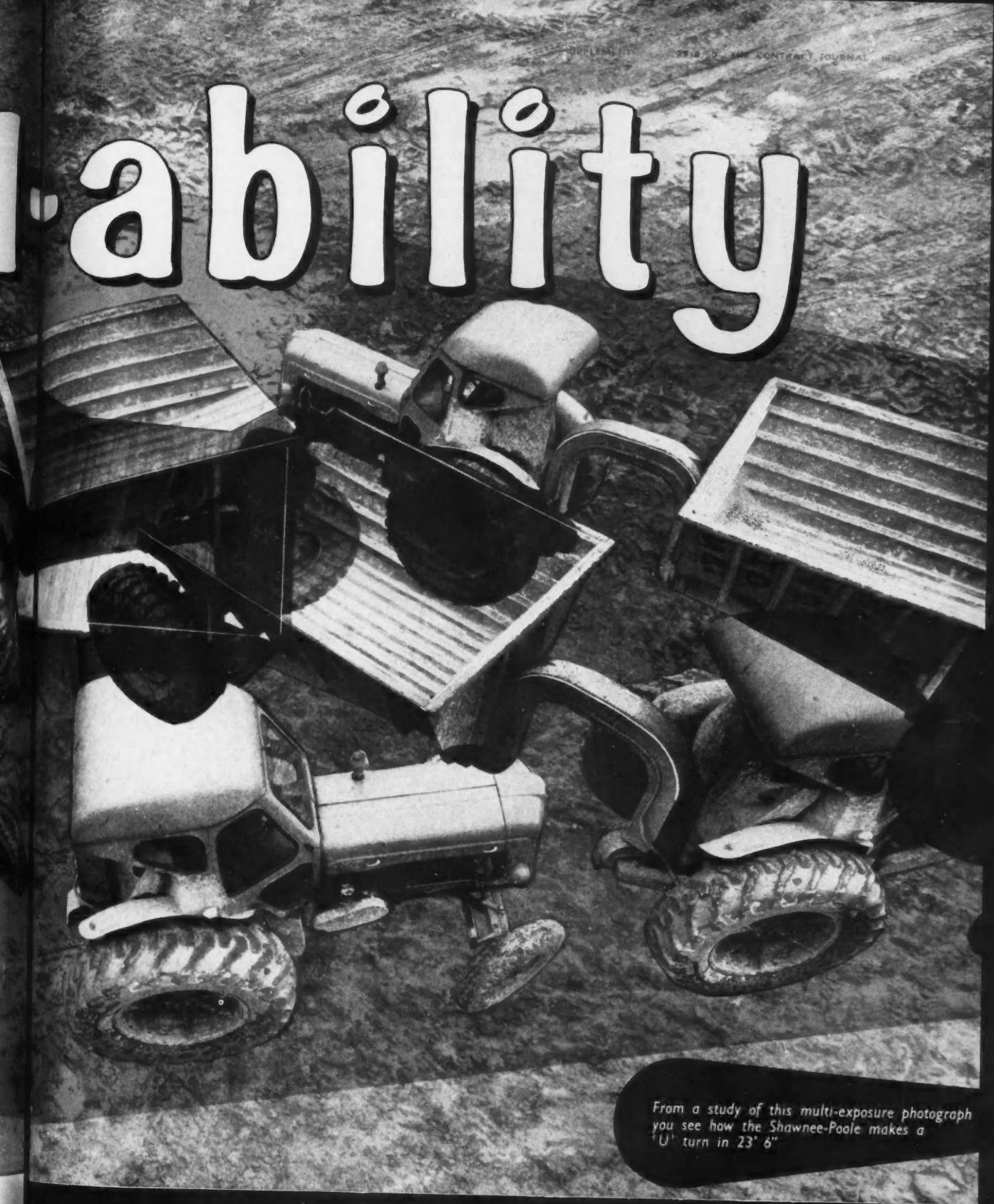
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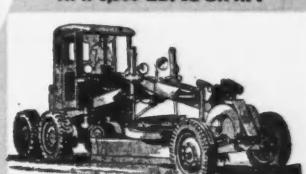
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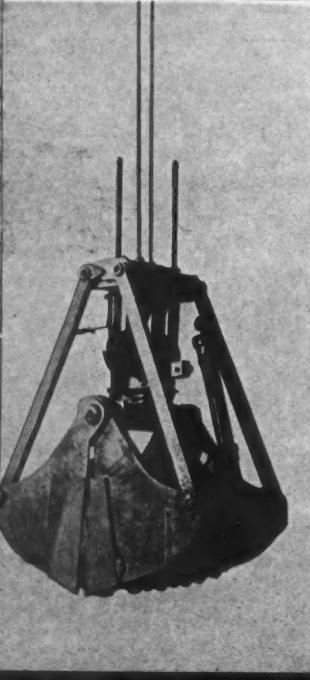
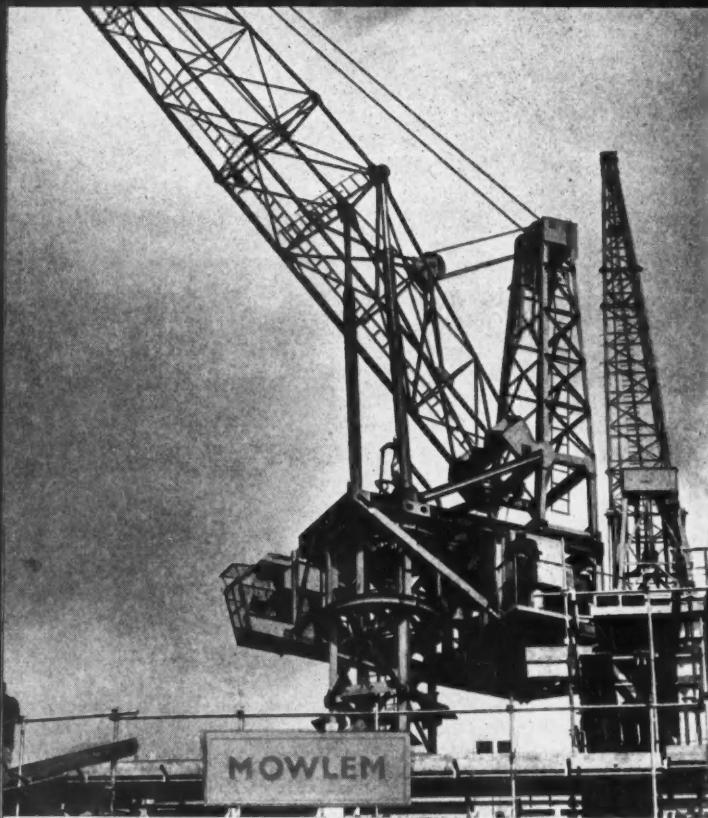


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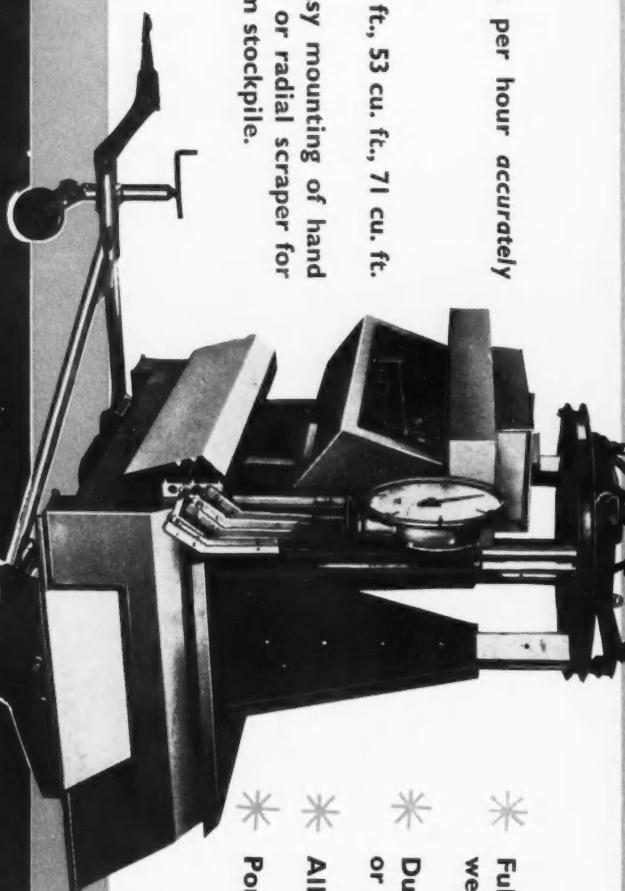




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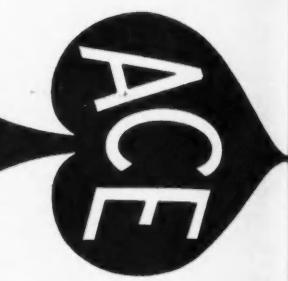


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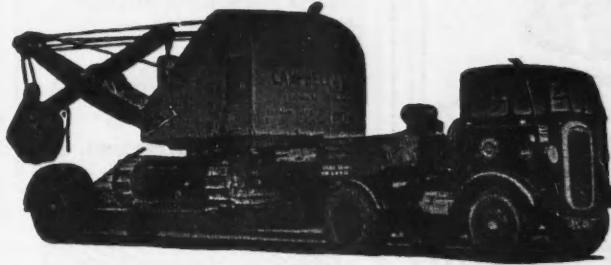
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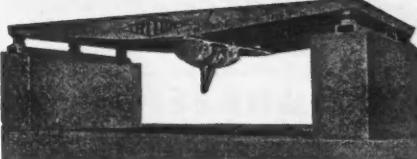
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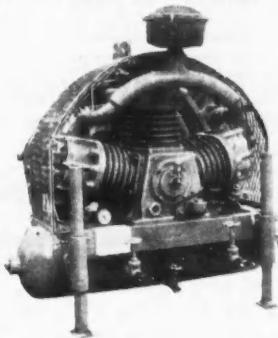
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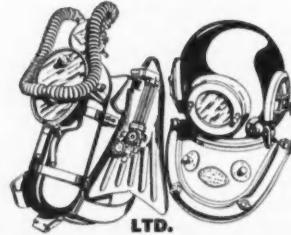
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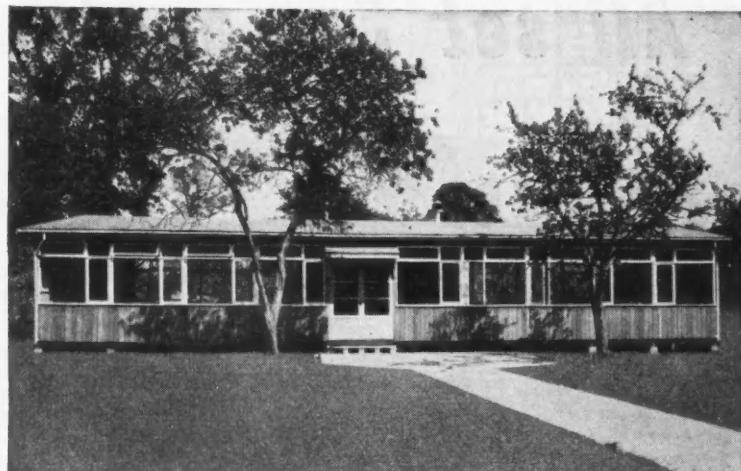
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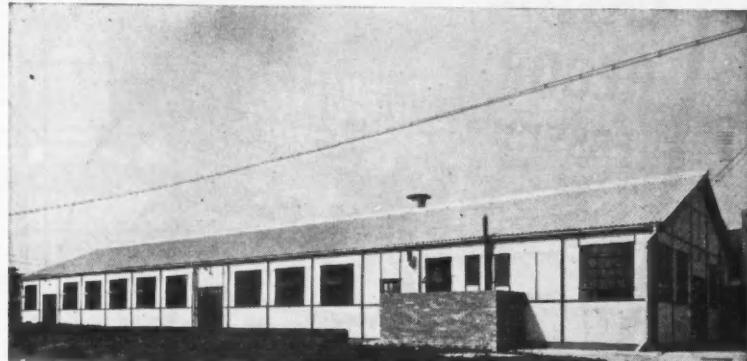


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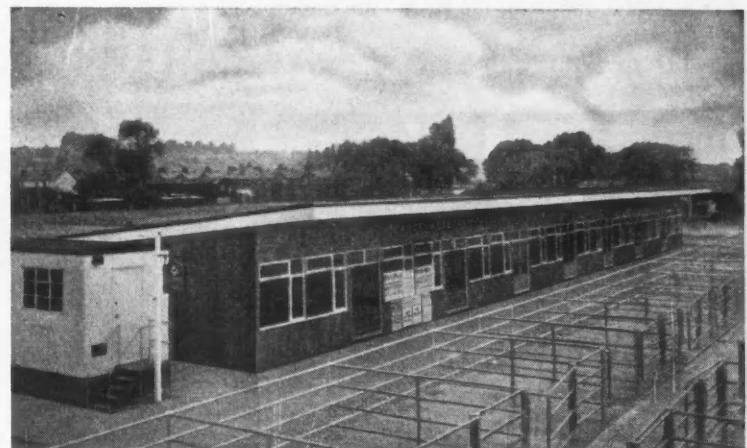
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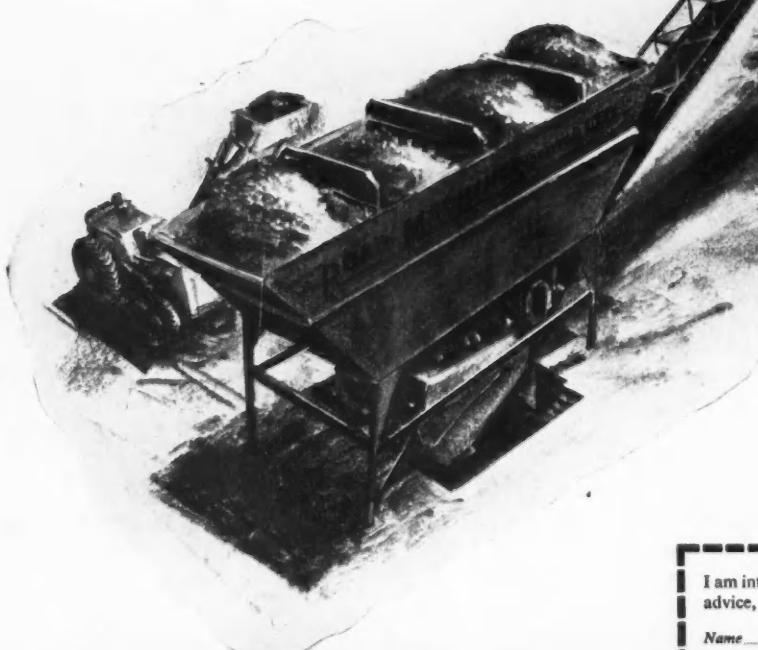
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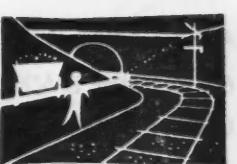
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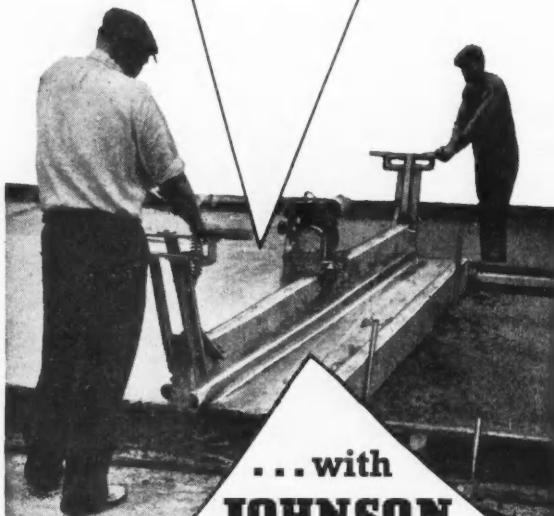


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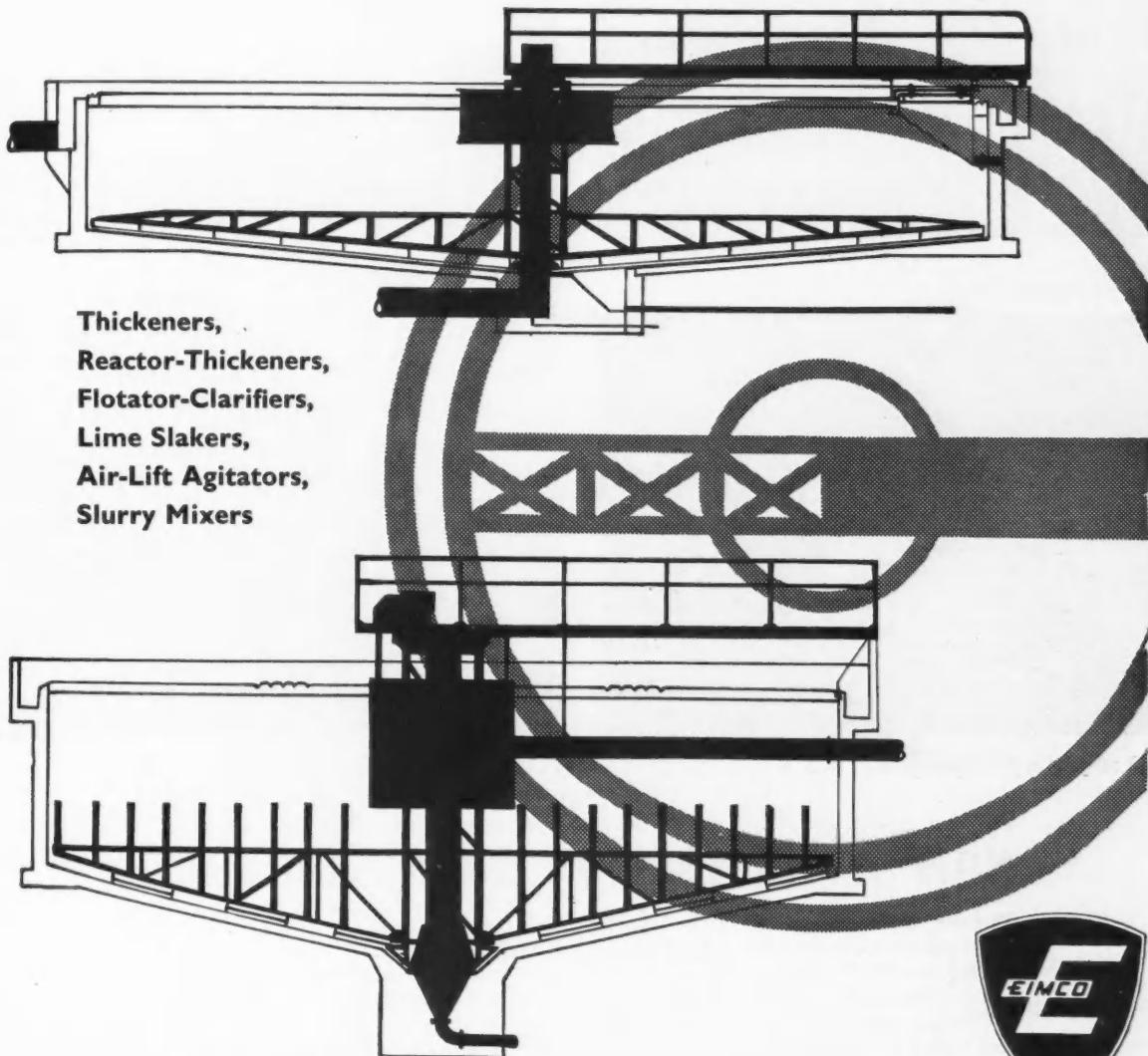
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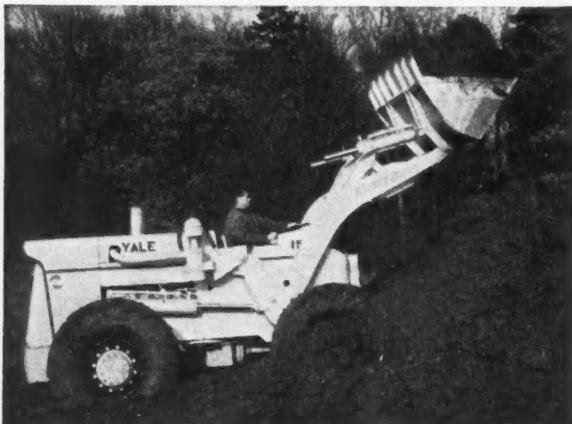
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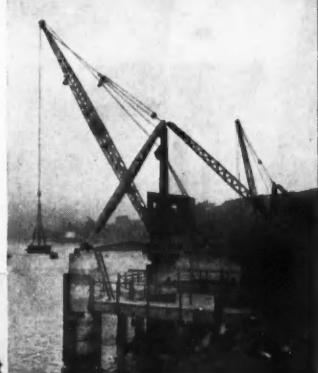
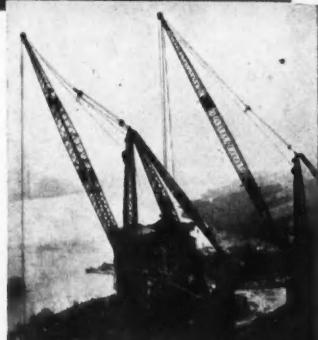
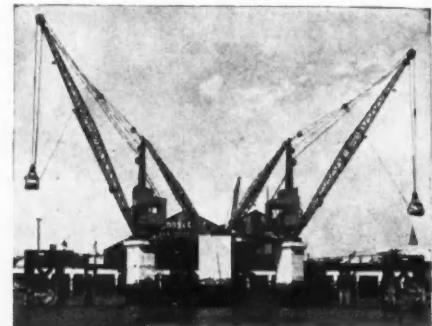
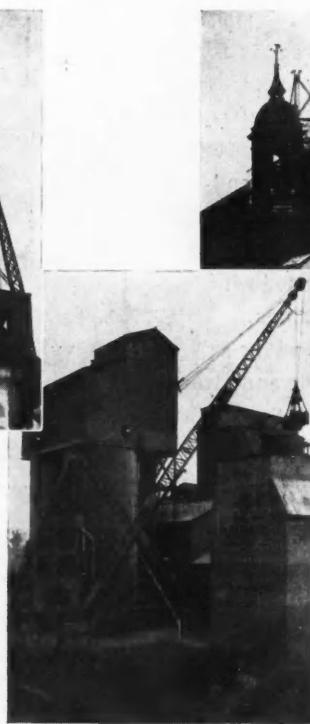
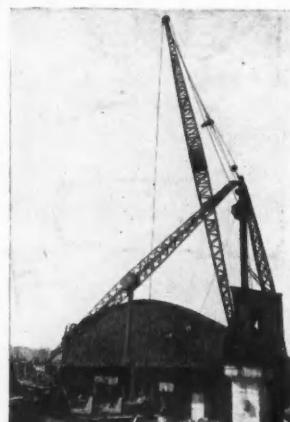
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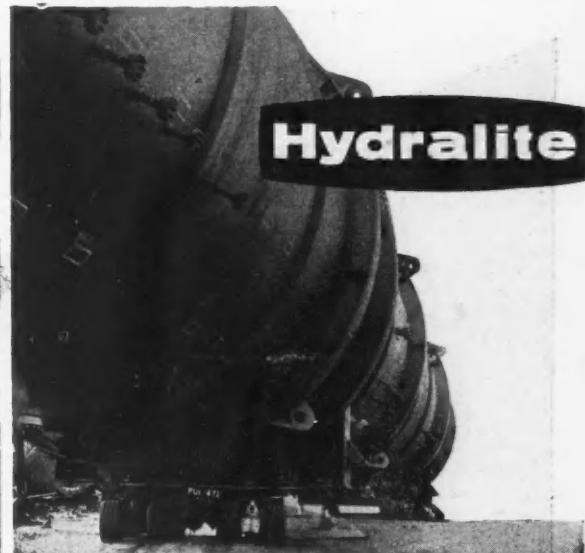
SPECIFICATION

Roll length	25yds.
Mesh	1", 1½", 1½", 1¾", 2"
Gauges	12½, 10½, 10 and 9½ overall with galvanized or bright steel core
Width	From 30" up to 13' in 6" stages
Colour	Standard Dark Green. Special colours to order
Line Wires	Plastic covered

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One of the largest oil refinery columns ever made, 21ft. dia., 142ft. long, and weighing 147 tons. The makers, G. A. Harvey & Co. Ltd., chose Hydralites for lifting on and off cradles, boggies, etc. during transporting operations.

The adaptability, portability and power of Hydralite Lightweight Jacks, are simplifying many heavy handling problems. Hydralites are available in a range from 15 to 100 tons capacities and the example shown here is a 50 tons jack with a threaded ram and retaining nut. Send now for complete list.



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BCL Blanket Dampcourse is

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- rotproof** and chemically inert—will not break down or lose efficiency;
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- cheap**—material and labour-costs are very low.

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To: British Cellophane Limited
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Please send me, free and without obligation,
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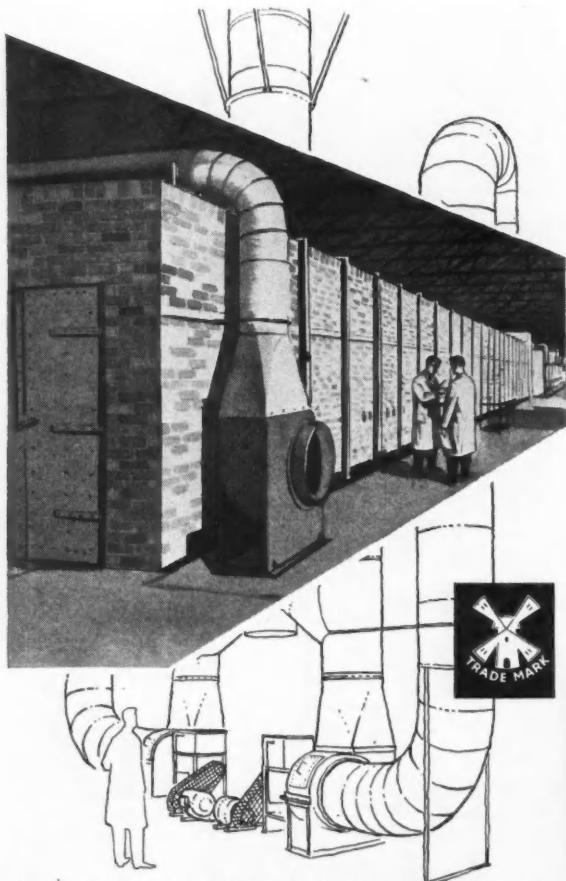
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Please tick
as appropriate

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ADDRESS.....

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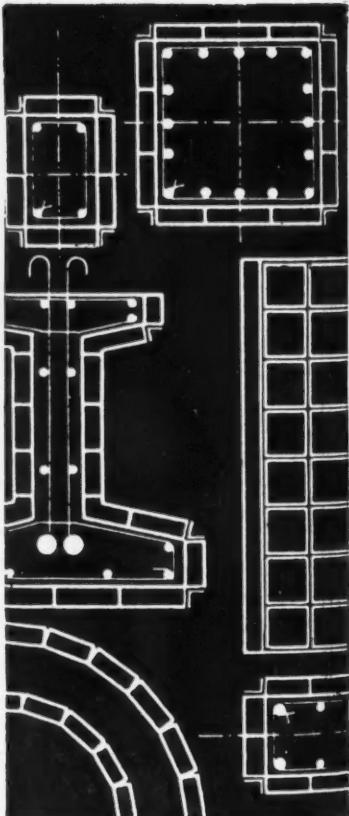
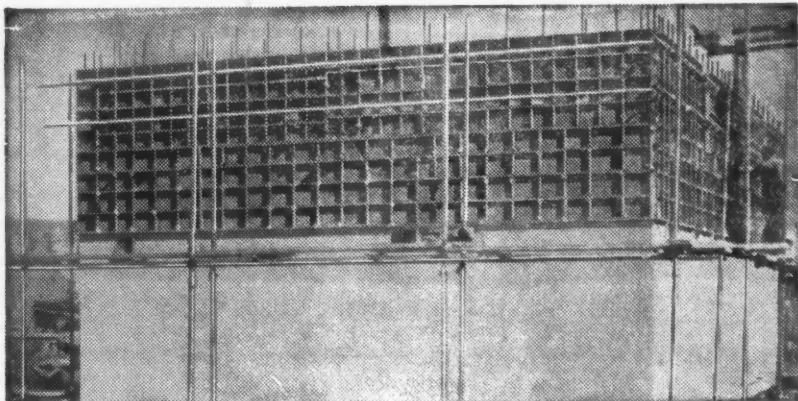
Nothing is left to chance in the production of Windmill Quarry Tiles. Their rich colour and uniformity of shade and size are kept constant by the most up-to-date production methods. Fired in a scientifically controlled tunnel kiln, the high standard* of Windmill Tiles can be accurately maintained at competitive prices — another good reason for specifying them wherever economy, reliable wearing qualities and hygiene govern the choice of flooring.

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* B.S.1286, 1945.

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Due to the continued expansion of the Company, vacancies now exist for Agents and General Foremen for medium and large Building Construction Contracts in various parts of the country.

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Salary will be commensurate with experience and qualifications.

*Apply stating age, experience and qualifications to P.M. (C.M.3)
John Laing and Son Limited,
London, N.W.7.*

CONTRACTS

BOROUGH OF HARROW.
UXBRIDGE ROAD IMPROVEMENT—PART III
(KIPLING PLACE TO GREEN LANE).

TENDERS are invited for ROADWORKS involving approx. 4,500 sq. yd. of Carriageway Widening in Lean-mix Concrete, 13,250 sq. yd. of Surfacing in Bitumen Macadam and Fine Cold Asphalt, Kerbling, Paving, Culverting and Drainage Work. Conditions of Contract may be inspected at the office of the Borough Engineer, at the Council Offices, Uxbridge Road, Harrow, Middlesex, and tenders, accompanied by Bills of Quantities obtained on application to the Borough Engineer, at the Council Offices, Uxbridge Road, Harrow, Middlesex, should reach the County Clerk, County Offices, Dolegellau, not later than MONDAY, the 29th August, 1960.

Tenders, on prescribed forms, enclosed in a plain envelope bearing no indication of the sender, endorsed "Tender for Uxbridge Road Improvement (Part III)," to be delivered to me not later than 10 a.m. TUESDAY, 20th September, 1960.

The Council does not bind themselves to accept the lowest or any Tender.

D. H. PRITCHARD,
Town Clerk.

Council Offices,
Harrow Weald Lodge,
Harrow, Middx.

CITY OF CARDIFF.
CITY ARCHITECT'S DEPARTMENT.

TENDERS FOR THE ERECTION OF 194 DWELLINGS AT RUMNEY, BUTE-TOWN AND ELY NORTH.

FIXED-PRICE TENDERS are invited for the CONSTRUCTION of the FOLLOWING DWELLINGS in THREE CONTRACTS:

GROUP 1—105 Dwellings—Manorbier Crescent Extension, Rumney, comprising:

6 One-bedroom Bungalows in Two Blocks.
10 Three-bedroom Semi-detached Houses.
5 Three-bedroom Terrace Houses in One Block.

72 One-bedroom Flats in 5 Three-storey Blocks.

12 One- and Two-bedroom Flats in One Block.

GROUP 2—39 Dwellings—Loundoun Square, Butetown, comprising:

27 One-bedroom Flats in 3 Three-storey Blocks.
12 Three- and Four-bedroom Four-storey flats—Manorbier in One Block.

GROUP 3—51 Dwellings—1 Shop and 6 Garages at Green Farm, Ely North:

46 Two-storey One-bedroom Flats.
3 Three-bedroom Houses.
1 Single-storey Three- bedroom Living Accommodation.

6 Brick Garages.

Contractors may tender for one or more Contracts, but each Contract must be tendered for separately.

Conditions of Contract, Drawings and Specifications may be inspected at the City Architect's Department, Municipal Offices, Cardiff, South Wales.

Drawings, Bills of Quantities and Form of Tender may be obtained from the City Architect, to whom application should be made, accompanied by a deposit of £2 2s. for each Contract. Cheques should be made payable to the Cardiff Corporation and crossed "Not Negotiable and Co." The deposit will be refunded on receipt of a bona-fide Tender or the return of the Contract documents.

Tenders will not be considered unless enclosed in the envelope provided and endorsed "Tender for _____ Dwellings at _____" (as the case may be), addressed to the Town Clerk at the City Hall, Cardiff, and sent by Registered Post so as to be received not later than the 13th SEPTEMBER, 1960.

The envelope must not bear the name of, or any mark indicating, the identity of the tenderer.

Completed Bills of Quantities must not be submitted with the Tender, but must be sent complete to the City Architect within three days after written request following the opening of tenders.

The Council does not bind itself to accept the lowest or any Tender.

S. TAPPER-JONES,
Town Clerk.

August, 1960.

CITY OF CARDIFF.
CITY ARCHITECT'S DEPARTMENT.

ERCTION OF 219 LOCK-UP GARAGES AND SITEWOKS ON VARIOUS SITES.

FIXED-PRICE TENDERS are invited for the ERECTION of a total of 219 LOCK-UP GARAGES and Sitewoks in EIGHT CONTRACTS, as follows:

CONTRACT 1—48 Garages—Heol Trellai, Ely South.

CONTRACT 2—6 Garages—Blue House Road, Llanishen.

CONTRACT 3—14 Garages—Whitebarn Road, Llanishen.

CONTRACT 4—14 Garages—Llandudno Road, Rumney.

CONTRACT 5—10 Garages—Honiton Road, Llanrumney.

CONTRACT 6—14 Garages—Burnham Ave., Llanrumney.

CONTRACT 7—24 Garages—Portlock Road, Llanrumney.

CONTRACT 8—21 Garages—Leckwith.

CONTRACT 9—24 Garages—Lydney Crescent, Gabalfa.

CONTRACT 10—21 Garages—Hirst Crescent, Fairwater.

CONTRACT 11—21 Garages—Deere/Wilson Roads, Ely North.

Contractors may tender for one or more Contracts, but each Contract must be tendered for separately.

Conditions of Contract, Drawings and Specification may be inspected at the City Architect's Department, Municipal Offices, Cardiff, South Wales.

Specification, Drawings and Form of Tender may be obtained from the City Architect, to whom application should be made, accompanied by a deposit of £2 2s. in respect of each Contract. Cheques should be made payable to the Cardiff Corporation and crossed "Not Negotiable and Co." The deposit will be refunded on receipt of a bona-fide Tender or the return of the Contract documents.

Tenders will not be considered unless enclosed in the envelope provided and endorsed "Tender for _____ Garages—Contract No. _____" (as the case may be), addressed to the Town Clerk at the City Hall, Cardiff, and sent by Registered Post so as to be received not later than the 13th SEPTEMBER, 1960.

The envelope must not bear the name of, or any mark indicating, the identity of the tenderer.

The Council does not bind itself to accept the lowest or any Tender.

S. TAPPER-JONES,
Town Clerk.

August, 1960.

CONTRACTS

MERIONETH COUNTY COUNCIL.
HIGHWAYS AND BRIDGES DEPARTMENT.

The County Council invite TENDERS for ONE or TWO DIESEL COMPRESSORS (100-150 c.f.m.), Mounted on Pneumatic Tyres.

An allowance is to be made for one or two Broad-weather Compressors, Petrol Engines, 1954 and 1959 Models, owned by the County Council and offered in part exchange. These Compressors may be inspected by arrangement with the County Surveyor.

Tenders, accompanied by Makers' Specification and delivery time of delivery in plain sealed envelopes, should reach the COUNTY CLERK, County Offices, Dolgellau, not later than MONDAY, the 29th August, 1960.

CITY OF CARDIFF.
CITY ARCHITECT'S DEPARTMENT.PROPOSED TEACHER TRAINING COLLEGE.
CYNOEDD.

FIXED-PRICE TENDERS are invited for the ERECTION of a NEW TEACHER TRAINING COLLEGE for 400 STUDENTS, with Residential Accommodation for 300 Students and Staff.

The College is of one, two- and three-storey construction, 71,360 sq. ft. floor area, and the Residential Accommodation is of two- and three-storey construction, 66,467 sq. ft. floor area. The total value of the works is approximately £550,000.

The whole of the works are to be complete by June 1962.

The preparation works are now being carried out under a separate contract.

The Tender documents will be available on the 1st September, 1960.

Conditions of Contract, Drawings and Specification may be obtained from the City Architect, to whom application should be made, accompanied by a deposit of £2 2s. Cheques should be made payable to the Cardiff Corporation and crossed "Not Negotiable and Co." The deposit will be refunded on receipt of a bona-fide Tender or the return of the Contract documents.

Tenders will not be considered unless enclosed in the envelope provided and endorsed "Tender for Teacher Training College, Cyndeed," addressed to the Town Clerk at the City Hall, Cardiff, and sent by Registered Post so as to be received not later than the 29th SEPTEMBER, 1960.

The envelope must bear the name of or any mark indicating the identity of the tenderer.

Completed Bills of Quantities must not be submitted with the Tender but must be sent completed in ink, sealed and sent in the hands of the City Architect within three days after written request following the opening of Tenders.

The Council does not bind itself to accept the lowest or any Tender.

S. TAPPER-JONES,
Town Clerk.

August, 1960.

CITY OF YORK.
HOUSING COMMITTEE.

FOSSWAY (REDEVELOPMENT) ROADS AND SEWERS.

TENDERS are invited for the CONSTRUCTION of approx. 200 lin. yd. of 9in. dia. STONE GLAZED PIPE SURFACE, and 100 lin. yd. of 6in. thick REINFORCED CONCRETE CARRIAGEWAY between Concrete Kerbs.

The General Conditions of Contract and Drawings may be inspected at, and the Specification, Bills of Quantities and Form of Tender obtained from the undersigned on payment of a deposit of £2 2s. (Two Pounds), cheque to be made payable to York Corporation. Deposits will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

The completed Form of Tender shall be delivered to the undersigned, in the official printed Tender envelope sealed and endorsed "Fossway (Redevelopment of Roads and Sewers)," not later than Noon on TUESDAY, 13th September, 1960.

The lowest or any Tender will not necessarily be accepted.

CHAS. J. MINTER,
City Engineer, Surveyor and Planning Officer.
7 St. Leonard's Place, York.

CITY OF OXFORD.
LANDSCAPING OF LONDON ROAD IMPROVEMENT.

TENDERS are invited for the ABOVE WORKS, which consist of Turfing and Seeding, Tree, Shrub and Herbaceous Planting, and the Restoration of Private Gardens, over a length of 700yd. of dual carriageway affected by the improvements.

Qualified contractors who have experience in this class of work may obtain copies of the Contract documents from the City Engineer, Town Hall, Oxford. Preference will be given to contractors within a 50-mile radius of Oxford.

Tenders are returnable by 12th SEPTEMBER, 1960, and in accordance with detailed instructions contained in the documents.

HARRY PLOWMAN,
Town Clerk.

5th August, 1960.

ALDRIDGE URBAN DISTRICT COUNCIL.

EASTERN AREA SEWERAGE.

CONTRACT NO. 2.

TENDERS are invited for the CONSTRUCTION of about 500 lin. yd. of GLAZED STONEWARE PIPE SEWERS, 6in. and 8in. dia. and MANHOLES, a SEWAGE PUMPING STATION with 8in. dia. Spun Iron Rising Main about 520 lin. yd. in length, and incidental works, in accordance with the Drawings, Specification and Bills of Quantities prepared by the Engineers, MESSRS. A. H. S. WATERS AND PARTNERS, of 25 Temple Row, Birmingham, 2.

The Drawings may be seen at, and the Conditions of Contract, Specification, Bills of Quantities and Form of Tender may be obtained from the Offices of the undersigned, or of the Engineers, on or after 29th AUGUST, 1960, on payment of a deposit of Five Guineas, which will be refunded upon receipt of a bona-fide Tender and the return of all documents.

Sealed Tenders, on the form supplied, and in the envelope provided, are to be delivered to me at my Offices not later than Noon on 23rd SEPTEMBER, 1960.

The Council does not undertake to accept the lowest or any Tender.

H. G. G. NICHOLS,
Clerk of the Council.

The Council House,
Aldridge, Staffs.

12th August, 1960.

Clerk of the Council.

CONTRACTS

STAFFORDSHIRE COUNTY COUNCIL.
TENDERS are invited for the CONSTRUCTION of a DUAL CARRIAGEWAY DIVERSION of the WORCESTER-WOLVERHAMPTON-SOUTH OF STAFFORD TRUNK ROAD, A.449, at BATTLEFIELD, near Wombourne.

The work includes Bulk Excavation, Fencing, Walling, Kerbing, Lean Concrete Carrigeway Foundation, Surface Water Draining, Bituminous Running Surface and Final Surfacing. Not Rolled Asphalt, or similar, or Reinforced Concrete River Bridge is also to be constructed.

Copies of the Specification and Bill of Quantities may be obtained from the undersigned on payment of a deposit of £5, which will be refunded on receipt of a bona-fide Tender or on return of the documents before 1st October, 1960.

Tenders, endorsed "A.449 Battlefield Diversion," and bearing no indication of the name of the sender, should be returned to the undersigned not later than 12 Noon on the 20th SEPTEMBER, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

T. H. EVANS,
Clerk of the County Council.

County Buildings,
Stafford.
August, 1960.

BOROUGH OF SWINTON AND PENDLEBURY.

TENDERS are invited from suitable contractors for the ERECTION and COMPLETION of 75 HOUSES and 30 DWELLINGS, together with the CONSTRUCTION of ROADS and SEWERS, at the BEEHIVE ESTATE (Section 3), CLIFTON, LANCASHIRE.

Bills of Quantities and Forms of Tender will be available from the 1st September, 1960, and may be obtained from the BOROUGH ENGINEER, Town Hall, Swinton, Lancs. Closing date for receipt of Tenders, 3rd OCTOBER, 1960.

BOROUGH OF WIDNES.

CONTRACT NO. 389.

CATHERINE STREET AND OLLIER STREET IMPROVEMENT.

TENDERS are invited for the ABOVE CONTRACT, comprising approx. 1,180 lin. yd. PRECAST CONCRETE FLAGGING, 650 lin. yd. CONCRETE KERBS and CHANNELS, and 2,350 sq. yd. BITUMEN MACADAM, WARHILL, COTSEY TO CARRIAGEWAY.

Copies of the Specification, Bill of Quantities and Form of Tender may be obtained from the Borough Engineer, Town Hall, Widnes, on payment of a deposit of £2 2s., refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in the envelope provided, endorsed "Catherine Street Improvement," to Borough Engineer not later than 12 Noon on FRIDAY, 16th September, 1960.

FRANK HOWARTH,
Town Clerk.

August, 1960.

ROYTON URBAN DISTRICT COUNCIL.

MODERNISATION OF PUBLIC BATHS AND PROVISION OF PUBLIC CONVENiences—PARK STREET, ROYTON.

The Council invite TENDERS, on a Fixed-price Basis, for WORKS of RECONSTRUCTION of the PUBLIC BATHS and the PROVISION of PUBLIC CONVENiences.

Bill of Quantities, Specification, Plans, Form of Tender and other particulars can be obtained on application to the Architects, MESSRS. TURNER, SON AND PARTNER, of Retiro Chambers, Waterloo Street, Oldham, Lancs., on payment of a deposit of Two Guineas (by cheque only, payable to the Urban District Council of Royton), which will be refunded on receipt of a bona-fide Tender and return of all documents.

The successful contractor will be required to execute the Council's contract and bond.

Tenders, on the form provided, should be submitted in a plain sealed envelope bearing no name or mark to indicate the sender, and endorsed "Tender for Proposed Alterations and Additions to Public Baths, Royton," and delivered to the undersigned not later than 9 a.m. on TUESDAY, the 6th September, 1960.

The Council do not bind themselves to accept the lowest or any Tender, and acceptance of a Tender will be subject to the final approval of the Minister of Housing and Local Government.

The contractor will be required to commence work immediately such approval is received.

A. DONALD OGDEN,
Clerk of the Council.

Town Hall,
Royton, Lancs.
1th August, 1960.

EAST BARNET URBAN DISTRICT COUNCIL.

CONTRACT NO. 937.

CLEARING, GRADING AND SEEDING, ETC., OF AREAS AT OAK HILL PARK.

FIXED-PRICE TENDERS are invited for AGRI-CULTURAL WORKS, comprising the Clearing, Grading and Seeding of approx. 23 acres of Land within Oak Hill Park, together with ancillary works, including Shaping and Forming Batters to Banks, and Land Drainage.

Forms of Tender, Supplementary Conditions of Contract, Specification and Bill of Quantities may be obtained from the ENGINEER AND SURVEYOR, Town Hall, Station Road, New Barnet, Herts, upon payment of a deposit of Two Guineas, which will be refunded on receipt of a bona-fide Tender.

Tenders, sealed in the envelopes provided, must be received by not later than FRIDAY, 16th September, 1960.

The lowest or any Tender will not necessarily be accepted.

BORDER RURAL DISTRICT COUNCIL.

CREW FELL WATER SUPPLY EXTENSION.

The Council invite TENDERS for the LAYING of approx. 2,850 lin. yd. of 3in. dia. SPUN CAST-IRON PIPES with Tyton Joints, along with necessary Valves, Fittings, etc.

Contractors with the necessary experience, plant and labour force desirous of tendering should submit their names and addresses, together with deposit of £2 2s., to the Council's Engineer at the under-mentioned address, following which Specification and Bill of Quantities will be forwarded.

E. E. HARDING,
Clerk of the Council.

7 Victoria Place,
Carlisle,
12th August, 1960.

CONTRACTS

BOROUGH OF SHREWSBURY.
ERECTION OF HOUSES AND FLATS AND A SHOP.

TENDERS are invited for a FIXED-PRICE CONTRACT for the ERECTION of 12 FLATS in THREE STOREYS, 12 THREE-STORY HOUSES and ONE SHOP WITH MAISONNETTE OVER at NEW STREET, Shrewsbury.

Specifications, Drawings, Bills of Quantities and Forms of Tender may be obtained from, and Conditions of Contract may be seen during office hours at the Office of the Borough Surveyor, Guildhall, Shrewsbury, on and after 31st August, on payment of £2 2s., which will be returned upon receipt of a bona-fide Tender and the remaining documents.

Tenders on the prescribed form, sealed in the envelope provided and bearing no mark of identification, are to be received by the undersigned not later than 10 a.m. on WEDNESDAY, 21st September, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

S. R. H. LOXTON,
Town Clerk.

Guildhall,
Shrewsbury,
August, 1960.

BOROUGH OF ABERYSTWYTH.
CONSTRUCTION OF SEWER AT SEA VIEW PLACE.

TENDERS are invited for the CONSTRUCTION of approx. 70 lin. yd. of 6in. diameter FOUL SEWER, together with Manholes and ancillary works.

Form of Tender, Specifications and Bills of Quantities may be obtained from the Borough Surveyor and Water Engineer, Park Avenue, Aberystwyth.

Tenders in envelopes provided by the Council, must reach the undersigned not later than MONDAY, 19th September, 1960.

The Council does not bind itself to accept the lowest or any Tender.

W. PHILIP DAVIES,
Town Clerk.

Town Hall,
Aberystwyth,
11th August, 1960.

BOROUGH OF HARROW.
ERECTION OF PUBLIC CONVENIENCE.

TENDERS are invited for the ERECTION of a PUBLIC CONVENIENCE in HONEYHOT LANE, Queensbury, fronting the Old Isolation Hospital. Plans and Conditions of Contract may be inspected at the Office of and copy made from Form of Tender, Specifications and Bills of Quantities obtained on application to the Borough Engineer and Surveyor, at the Council Offices, Cottesmore, 48 Uxbridge Road, Stanmore, Middlesex, or payment of Two Pounds by crossed cheque payable to Harrow Corporation, returning where a bona-fide Tender reaches me within the prescribed time.

Tenders, on the prescribed form, together with the priced and sealed Bill of Quantities, which will be opened in the case of the lowest Tenders only, enclosed in plain sealed envelopes bearing no indication of the sender, and endorsed "Erection of Public Convenience, Queensbury," to be delivered to my Office not later than 10 a.m. on TUESDAY, 27th September, 1960.

The Corporation does not bind itself to accept the lowest or any Tender.

D. H. PRITCHARD,
Town Clerk.

Town Clerk's Office,
Harrow Wedge Lodge,
92 Uxbridge Road,
Harrow, Middx.

CITY OF STOKE-ON-TRENT.
CHORLEY AVENUE HOUSING ESTATE, CHELL.
BOUNDARY FENCING—MINERAL RAILWAY LINE.
W.I. FENCING.

The CORPORATION invite TENDERS for the PROVISION, ERECTION and PAINTING of approx. 528 lin. yd. of WROUGHT-IRON FENCING 5ft. high to the ABOVE BOUNDARY.

Specification and Particulars may be obtained from the City Engineer and Surveyor, Town Hall, Stoke-on-Trent, on deposit of £1 (one). Such deposit will be repaid upon receipt of a bona-fide Tender.

Tenders, endorsed "Fencing—Chorley Avenue Housing Estate, Chell," to be delivered to the undersigned not later than 12 Noon, WEDNESDAY, 7th September, 1960, in a plain sealed envelope which must not bear any name or mark indicating the sender.

HARRY TAYLOR,
Town Clerk.

CITY OF STOKE-ON-TRENT.
HAMIL ROAD IMPROVEMENT, BURSLEM.

The CORPORATION invite TENDERS for the ABOVE ROAD IMPROVEMENT, including the following: 1,000 sq. yd. 9in. Foundations; 2,000 sq. yd. 3in. Bitumen Macadam Surfacing; 270 lin. yds. 12in. Prestressed Concrete Kerbs and Foundations; 925 sq. yd. 2in. Concrete Flag Paving, together with other incidental works.

Drawings and Conditions of Contract may be seen, and Specification and Bills of Quantities obtained, upon application to the City Engineer and Surveyor, Town Hall, Stoke-on-Trent, on payment of £2 deposit. Such deposit will be returned if a bona-fide Tender is received.

Tenders must be delivered to the Town Clerk, Town Hall, Stoke-on-Trent, in the envelope provided, not later than 12 Noon on WEDNESDAY, 7th September, 1960.

HARRY TAYLOR,
Town Clerk.

CITY OF STOKE-ON-TRENT.
(a) HONEYWALL HOUSING ESTATE, PENKULL.
(b) BERRY HILL NEIGHBOURHOOD UNIT.
(c) WARREN ROAD HOUSING ESTATE, CHELL HEATH.

COMPLETION OF STREET WORKS.

The CORPORATION invite TENDERS for the COMPLETION of STREET WORKS on the ABOVE ESTATES.

Drawings and Conditions of Contract may be seen at, and Bills of Quantities and Specifications obtained from, the City Surveyor's Department, Town Hall, Stoke-on-Trent, on payment of £2 each for (a), (b) and (c) which will be returned upon receipt of a bona-fide Tender.

Tenders on the priced Bills of Quantities must be delivered to the Town Clerk, Town Hall, Stoke-on-Trent, in the separate envelopes provided, not later than 12 Noon on WEDNESDAY, the 7th September, 1960.

HARRY TAYLOR,
Town Clerk.

CONTRACTS

BOROUGH OF SHREWSBURY.
ERECTION OF HOUSES, BUNGALOWS, SHOPS AND GARAGES.

TENDERS are invited for a Fixed-price Contract for the ERECTION of SIX HOUSES, TWO BUNGALOWS, TWO SHOPS, 19 GARAGES, and ALTERATIONS to MONKMOOR HALL FARM, to provide New Kitchen and Cellar. The works are on several sites, all in the CROMWOOD DISTRICT.

Specifications, Drawings, Bills of Quantities and Forms of Tender may be obtained from, and Conditions of Contract may be seen during office hours at the Office of the Borough Surveyor, Guildhall, Shrewsbury, on and after 31st AUGUST, on payment of £2 2s., which will be returned upon receipt of a bona-fide Tender and the remaining documents.

Tenders, on the prescribed form, sealed in the envelope provided and bearing no mark of identification, are to be received by the undersigned not later than 10 a.m. on WEDNESDAY, 21st September, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

S. R. H. LOXTON,
Town Clerk.

Guildhall,
Shrewsbury,
August, 1960.

BOROUGH OF SHREWSBURY.
ERECTION OF HOUSES, BUNGALOWS, FLATS, GARAGES AND A SHOP.

TENDERS are invited for a Fixed-price Contract for the ERECTION of 17 DWELLINGS, 10 GARAGES and ONE SHOP at DITHERINGTON Shrewsbury.

Specifications, Drawings, Bills of Quantities and Forms of Tender may be obtained from, and Conditions of Contract may be seen during office hours at the Office of the Borough Surveyor, Guildhall, Shrewsbury, on and after 31st August, on payment of £2 2s., which will be returned upon receipt of a bona-fide Tender and the remaining documents.

Tenders, on the prescribed form, sealed in the envelope provided and bearing no mark of identification, are to be received by the undersigned not later than 10 a.m. on WEDNESDAY, 21st September, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

S. R. H. LOXTON,
Town Clerk.

Guildhall,
Shrewsbury,
August, 1960.

BOROUGH OF RICHMOND (SURREY).
REBUILDING OF CORPORATION DEPOT—PHASE I

TENDERS are invited for PHASE I of the ABOVE REBUILDING SCHEME.

This phase consists of the Demolition and Rebuilding of Stores and Offices, etc., along Lower Mortlake Road frontage of the Depot.

Drawings may be inspected at the Borough Engineer's Office, King's Road, Richmond, and Tender documents will be available on application to that address on or after 25th AUGUST, 1960, upon payment of a deposit of Five Guineas, which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, sealed in envelopes provided, endorsed "Tenders sealed in envelopes provided, endorsed Phase I—Rebuilding Corporation Depot," must reach the undersigned not later than Noon on THURSDAY, 22nd September, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

CLIFFORD HEYWORTH,
Town Clerk.

Town Hall,
Richmond,
Surrey.

BOROUGH OF SCARBOROUGH.
SOUTHERN OUTFALL SEWER RECONSTRUCTION.

STAGE 2.

TENDERS are invited for the CONSTRUCTION of a 78in. dia. thickened CONCRETE PIPE SEWER approx. 310yd. long, to be laid in Open-cut along FORESHORE ROAD, and incidental works thereto. The date of the works to be completed by 18th March, 1961.

Specifications, Bills of Quantities, Conditions of Contract, and Form of Tender may be obtained on payment of a deposit of Two Guineas, which will be refunded upon receipt of a bona-fide Tender and the date of the undersigned.

Tenders, which should be enclosed in a plain sealed envelope endorsed "Tender for Southern Outfall Sewer Reconstruction," must be received by the undersigned not later than 10 a.m. on WEDNESDAY, 14th September, 1960.

V. FORSHAW,
Borough Engineer and Surveyor.

Town Hall,
Scarborough,
August, 1960.

LEE CONSERVANCY CATCHMENT BOARD.

SADDLES MILL STREAM DIVERSION SCHEME.

TENDERS are invited for the FOLLOWING WORKS in the Boroughs of Edmonton and Enfield, in the County of Middlesex:

(a) Construction of about 600 lin. yd. of 5ft. 6in. dia. Culvert in Tunnel, and about 275 lin. yd. of same in Trench;

(b) Construction of about 325 lin. yd. of Reinforced Concrete Culvert of widths varying from 4ft. 6in. to 9ft. and height about 4ft., together with Manholes and associated works.

Copies of the tendering documents may be obtained after 18th August, 1960, from the Board's Consulting Engineers, J. D. AND D. M. WATSON, MM.I.C.E., 67 Tufton Street, Westminster, S.W.1, upon payment of a deposit of Ten Guineas, which will be returned only on receipt of a bona-fide Tender and return of all documents. Cheques should be made payable to the Lee Conservancy Catchment Board.

The Board does not bind itself to accept the lowest or any Tender.

No Tender will be considered unless received in the envelope provided with no mark indicating the sender, sealed, and delivered to the undersigned by Noon on 19th SEPTEMBER, 1960.

J. L. SPILLER,
Clerk of the Board.

The Lee Conservancy Catchment Board,
Brettenham House,
Lancaster Place,
Strand, W.C.2.

The CORPORATION invite TENDERS for the COMPLETION of STREET WORKS on the ABOVE ESTATES.

Drawings and Conditions of Contract may be seen at, and Bills of Quantities and Specifications obtained from, the City Surveyor's Department, Town Hall, Stoke-on-Trent, on payment of £2 each for (a), (b) and (c) which will be returned upon receipt of a bona-fide Tender.

Tenders on the priced Bills of Quantities must be delivered to the Town Clerk, Town Hall, Stoke-on-Trent, on the separate envelopes provided, not later than 12 Noon on WEDNESDAY, the 7th September, 1960.

HARRY TAYLOR,
Town Clerk.

CONTRACTS

BOROUGH OF BASINGSTOKE.
ALTERATIONS AND ADDITIONS TO CORPORATION DEPOT, BASINGSTOKE.

CONTRACTS

BOROUGH OF BASINGSTOKE.

TENDERS are invited for the CONSTRUCTION of BRICK or BLOCK PANEL WALLS, CONCRETE FLOORS, and other similar work, to Two Proposed Precast Concrete-framed Buildings with Asbestos-clad Roofs, that are to be erected on the ABOVE ESTATES. The approximate areas of the Buildings are as follows: Building No. 1—4,800 sq. ft.; Building No. 2—1,800 sq. ft.

Specification, Bill of Quantities and Form of Tender may be obtained from the Borough Surveyor, Municipal Buildings, Basingstoke, on payment of a £2 2s. deposit, which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders must be delivered to the undersigned, in a plain sealed envelope endorsed "Tender for Depot Buildings," not later than Noon on MONDAY, 5th September, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

L. WOMERSLEY,
Town Clerk.

Municipal Buildings,
London Road,
Basingstoke, Hants.

BOROUGH OF BASINGSTOKE.

PRECAST CONCRETE-FRAMED BUILDINGS CORPORATION DEPOT, BASING ROAD.

TENDERS are invited for the SUPPLY and ERECTION of TWO PRECAST CONCRETE-FRAMED BUILDINGS, both of 40ft. span. Tenders are to include for Insulated Roofing and some Insulated Side-Cladding, but not for Brick or Block Panel Walls, Concrete Floors, and other ancillary building works.

Specification, Bill of Quantities and Form of Tender may be obtained from the Borough Surveyor, Municipal Buildings, Basingstoke, on payment of a £2 2s. deposit, which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders must be delivered to the undersigned, in a plain sealed envelope endorsed "Tenders for Pre-cast Concrete-framed Buildings at Corporation Depot," not later than Noon on FRIDAY, 2nd September, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

L. WOMERSLEY,
Town Clerk.

Municipal Buildings,
London Road,
Basingstoke, Hants.

BOROUGH OF KEIGHLEY.

HAINWORTH WOOD ROAD HOUSING ESTATE.

TENDERS are invited from contractors for the CONSTRUCTION of the ABOVE ESTATE, approximately 200yds. in length, with Double Surface Dressing on Limestone Carriageway, Flagged Footways, 9in. diameter Sewer and 9in. diameter Surface Water Drain.

Drawings and General Conditions of Contract may be seen at the Borough Engineer's Office, College Street, Keighley, during normal office hours. Specification and Form of Tender, which will be forwarded fully priced with the Form of Tender, will be forwarded on application to the Borough Engineer.

Sealed Tenders, on the official forms and in the envelope supplied, and endorsed "Hainworth Wood Road Housing Estate," must be delivered to the undersigned not later than 10 a.m. on THURSDAY, the 15th September, 1960.

H. W. SMITH,
Town Clerk.

Town Hall,
Keighley.

MALVERN URBAN DISTRICT COUNCIL.

EXTENSIONS AND ALTERATIONS TO PRIORY PARK SWIMMING POOL.

FIXED-PRICE TENDERS are invited for the CONSTRUCTION of a NEW BUILDING, comprising Changing Accommodation and ancillaries, together with an Extension to the Filter House. Provision of a Public Training Pool, Alterations and Repairs to existing Building and Swimming Pool.

Drawings, Specification, Bills of Quantities and Form of Tender may be obtained from MR. C. C. JUDSON, Surveyor and Water Engineer, The Council House, Malvern, on payment of a deposit of Five Guineas, which will be returned after receipt of a bona-fide Tender.

Tenders, on the prescribed form, in the envelope supplied, must be delivered to the undersigned not later than Noon on the 16th SEPTEMBER, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

J. BULMAN,
Clerk of the Council.

The Council House,
Malvern.

10th August, 1960.

NEWMARKET RURAL DISTRICT COUNCIL.

FORDHAM SEWERAGE SCHEME.

CONTRACTS 1, 2 AND 3.

TENDERS are invited for the FOLLOWING CONTRACTS:

(1) The Laying of 8,300yd. of 6in., 9in. and 12in. dia. Sewers, 3,100yd. of 4in. and 6in. dia. Rising Mains, the Construction of Three Pumping Stations at Fordham, and Extensions to the Existing Sewage Disposal Works at Soham.

(2) The Supply and Erection of Duplicate 250-g.p.m. Pumping Equipment in No. 1 Pumping Station, Fordham.

(3) The Supply and Erection of Duplicate 40-g.p.m. Ejector Machinery in the Ejector Station, Fordham.

The village of Fordham is situated approximately four miles to the north of Newmarket. Soham is approximately two miles north of Fordham. Contractors wishing to tender should apply to the Council's Consulting Engineers, J. H. HAISTE AND PARTNERS, 44-46 Bridge Street, Peterborough, enclosing a deposit cheque, value Three Guineas, in respect of each Contract, and made payable to the Newmarket Rural District Council, such deposit to be refunded on receipt of a bona-fide Tender and the return of the documents.

Drawings may be inspected at either the Council Offices or the Consulting Engineer's Office.

Tenders should be submitted to the undersigned not later than 12 Noon on SATURDAY, 17th September, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

H. W. EVANS,
Clerk to the Council.

Council Offices,
Park Lane,
Newmarket,
Suffolk.

THE CONTRACT JOURNAL

August 25 1960

CONTRACTS

BEDFORDSHIRE COUNTY COUNCIL.
LONDON-EDINBURGH-THURSO TRUNK ROAD, A.1.
DIVERSION AT GIRTFORD.

TENDERS are invited for the CONSTRUCTION of DUAL CARRIAGeways from NORTH of BEESTON to GIRTFORD SIDINGS RAILWAY BRIDGE, overall length approximated 1.4 miles. Included in the Contract are Construction of a New Bridge and Flood Arches over the River Ivel, Steel Flood Arches, Earthworks and Drainage.

Copies of the Conditions of Contract, Specification, Bills of Quantities and Selected Drawings can be obtained from the County Surveyor, Castle Road, Bedford, on payment of a deposit of 10 Guineas, which will be returned upon receipt of a bona-fide Tender and the return of the Drawings before the closing date.

The remaining uncoloured Contract Drawings may be obtained on loan for the sum of Six Guineas. Three Guineas will be refunded when the drawings are returned.

Tenders, in the envelope provided and not bearing any name or mark indicating the sender must be delivered to the undersigned not later than 30th SEPTEMBER, 1960.

The Contract is subject to the approval of the Minister of Transport, and the Council do not bind themselves to accept the lowest or any Tender.

GEORGE BREWIS,
Clerk of the County Council.

Shire Hall,
Bedford,
August, 1960.

COUNTY BOROUGH OF SOUTHAMPTON.

Southampton C.B.C. invites TENDERS for the FOLLOWING CONTRACTS on Bills of Quantities available in September:

CONTRACT B.353—20 Traditional Houses, Surrey House.

CONTRACT B.342—17 Traditional Houses, Bitterne Road/Bath Road.

CONTRACT B.342—Three Blocks of Four-storey Traditional Flats, Type "P" (14 flats per block), Bitterne Road/Bath Road.

Applications for Tender documents should be received by the BOROUGH ENGINEER, Civic Centre, Southampton, by 10 a.m. on TUESDAY, 6th September, 1960.

COUNTY BOROUGH OF SOUTHAMPTON.

TENDERS are invited for the FOLLOWING CONTRACTS on Bills of Quantities available in September:

Contract B.327—Block of 14 Shops and 26 Dwellings with Garages, and ancillary works, at Thornhill Estate.

Applications for Tender documents should be received by the BOROUGH ENGINEER, Civic Centre, Southampton, by 10 a.m. on FRIDAY, 9th September, 1960.

BOROUGH OF CHATHAM.

ORDNANCE STREET REDEVELOPMENT AREA—STAGE 2—PERRY STREET AREA.

TENDER documents will shortly be available for the FOLLOWING DWELLINGS in the Ordnance Street Redevelopment Area:

GROUP 1—12 One-bedroom Flats (3 Stores);

GROUP 2—2 Three-bedroom Houses.

Contractors who wish to tender for one or both groups are invited to submit their names, not later than 1st SEPTEMBER, 1960, to MR. J. A. T. RICHARDS, Borough Engineer and Surveyor, stating the group they wish to tender for, and enclosing a deposit of Two Guineas for each group, which will be returned upon receipt of a bona-fide Tender.

Tenders, which will be considered separately, must be received by the undersigned not later than Midday on MONDAY, 3rd October, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

ROWLAND NEWNES,
Town Clerk.

Town Hall,
Chatham,
August, 1960.

BOROUGH OF RAWTENSTALL.

ERCTION OF NEW MORTUARY—RAWTENSTALL CEMETERY—BURNLEY ROAD, RAWTENSTALL.

TENDERS are invited for the ERECTION of the NEW MORTUARY in the FOLLOWING TRADES:

Excavator.
Concreter.
Bricklayer and Mason.
Drainlayer.
Slablayer.
Carpenter and Joiner.
Plaster.
Plumber and Glazier.
Electrician.

Contractors may Tender for individual or all trades. Copies of the Bills of Quantities and Form of Tender may be obtained from the Borough Engineer and Surveyor, Town Hall, Rawtenstall, Rossendale, on payment of Two Guineas, which will be returned upon receipt of a bona-fide Tender not subsequently withdrawn and the return of all documents as required.

The General Conditions of Contract and Extract Drawings may be inspected at the Borough Surveyor's office during normal working hours.

Tenders in the form supplied, must be delivered to the undersigned not later than Noon on MONDAY, 19th September, 1960, in the envelope provided.

The Council do not bind themselves to accept the lowest or any Tender.

(Signed) COLIN CAMPBELL,
Town Clerk.

Town Hall,
Rawtenstall,
Rossendale,
Lancs.

12th August, 1960.

BELPER URBAN DISTRICT COUNCIL.

RENEWAL OF WATERMAIN.

FIXED PRICE TENDERS are invited for the RENEWAL of a 300yd. of 6in. and 580yd. of 4in. diameter WATER MAIN from the PALE FOUNDRY, BELPER to JUNCTION of HOPPING HILL with DERBY ROAD, MILFORD.

Bills of Quantities and Form of Tender may be obtained from the Drawings Inspected upon application to the Engineer and Surveyor, Council Offices, King Street, Belper, Derby.

Tenders, in plain sealed envelopes marked "6in. and 4in. diameter Water Main," must be delivered to the undersigned not later than MONDAY, 26th September, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

CHARLES PRICE,
Clerk of the Council.

Council Offices,
King Street,
Belper,
15th August, 1960.

CONTRACTS

CAMBRIDGESHIRE COUNTY COUNCIL.
RECONSTRUCTION OF CAMBRIDGE-POTTON ROAD, A.603.

CONTRACT NO. 6016.

TENDERS are invited for the RECONSTRUCTION of approx. 1,000 lin. yd. of the ABOVE ROAD, comprising Precast Concrete Channelling, Widening in Broken Concrete, Hand-laid Gravel, Chippings, and asphalt paving. Macadam-laid surfacing does not form part of this Contract.

Documents in respect of the work may be obtained from the County Surveyor, MR. R. LACEY, M.I.C.E., at the address below.

Tenders, in an official envelope, must reach the undersigned not later than 9 a.m. WEDNESDAY, 14th September, 1960.

CHARLES PHYTHIAN,
Clerk of the Council.

Shire Hall,
Castle Hill,
Cambridge.

BOROUGH OF LOUGHBOROUGH.

LAYING OF SURFACE WATER MAINS ON PLAYING FIELDS—DERBY ROAD, LOUGHBOROUGH.

FIXED-PRICE TENDERS are invited for the LAYING of approx. 1,000 lin. yd. of 9in. CONCRETE POROUS PIPES, together with other Incidental Works.

Drawings and General Conditions of Contract may be obtained, and the Specification, Bill of Quantities and Form of Tender may be obtained, from the undersigned on the deposit of Two Guineas, which will be returned upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders must be made out on the form supplied, are to be delivered in a plain sealed envelope endorsed "Surface Water Drains on Playing Fields, Derby Road, Loughborough," and addressed to ARTHUR USHER, Esq., Town Clerk, Southfields, Loughborough, not later than Noon on SATURDAY, 10th September, 1960.

JOHN S. BATES,
A.M.I.C.E., M.I.Mun.E., A.M.T.P.I.,
Borough Surveyor and Water Engineer.

Loughborough,
15th August, 1960.

BOROUGH OF ERITH.

COLD ASPHALT SURFACING—WOOLWICH ROAD.

TENDERS are invited for the SUPPLY and LAYING by BARBER-GREENE of approximately 680 tons of FINE COLD ASPHALT and the necessary quantity of PRECOATED GRANITE CHIPPINGS, in accordance with B.S. 1690.

Tender documents may be obtained from and Conditions of Contract may be inspected at the office of the Borough Engineer and Surveyor, Town Hall, Erith, on payment of a deposit of £2 2s., which will be refunded upon receipt of a bona-fide Tender which is not subsequently withdrawn.

Tenders must be on the form provided, enclosed in a sealed envelope endorsed "Tender for Asphalt Surfacing," and should be delivered to the undersigned not later than 12 Noon on WEDNESDAY, 7th September, 1960.

The contractor must be prepared to enter into a formal contract and bond with two sureties for the due performance of the Contract.

The Council do not bind themselves to accept the lowest or any Tender.

J. A. CROMPTON,
Town Clerk.

Town Hall,
Erith,
Kent.

FILEY URBAN DISTRICT COUNCIL.

ROAD WORKS—HUNMANBY GAP—FILEY.

TENDERS are invited for the LAYING of approximately 695 super. yd. of ROAD WORKS.

Bill of Quantity and Form of Tender may be obtained from the Acting Surveyor, Council Offices, Filey.

Tenders, in plain sealed envelopes endorsed "Road Works—Hunmanby Gap," to reach the undersigned not later than 4 p.m. on WEDNESDAY, 14th September, 1960.

The Council do not bind itself to accept the lowest or any Tender.

K. HENDERSON,
Clerk of the Council.

Council Offices,
Filey.

HATFIELD RURAL DISTRICT COUNCIL.

BELL BAR SEWERAGE.

TENDERS are invited, on a FIXED-PRICE BASIS, for the CONSTRUCTION of approximately 3,600 lin. yd. of 9in. diameter GLAZED STONEWARE FLEXIBLE JOINTED SEWER, 41 CONCRETE MANHOLES and 850 yds. of 4in. diameter DRAIN CONNECTIONS to B.S. 1690.

The Specification and Bill of Quantities may be obtained upon receipt of a deposit for £5 5s. from the office of the Engineer and Surveyor, North Place, 82 Great North Road, Hatfield, where the Drawings and General Conditions of Contract may be inspected during normal working hours.

Tenders, in the envelope provided, must be delivered to the undersigned not later than 12 Noon on MONDAY, 5th September, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

S. F. JAGO,
Clerk of the Council.

Council Offices,
16 St. Georges Road,
Hatfield,
Herts.

HIGHWORTH RURAL DISTRICT COUNCIL.

CASTLE EATON SEWERAGE AND SEWAGE DISPOSAL.

TENDERS are invited for the SEWERAGE of the VILLAGE of CASTLE EATON and the CONSTRUCTION of a PUMPING STATION and SEWAGE DISPOSAL WORKS.

The Work involves the Construction of approximately 1,000yds. of 9in. diameter Sewers, 400yds. of 4in. diameter Rising Main and a Sewage Disposal Works for a Population of 250 People.

Will contractors who wish to Tender please submit their names and addresses together with a deposit of Two Guineas, which will be returned upon receipt of a bona-fide Tender, to the Council's Engineer and Surveyor, 19 Bath Road, Swindon, Wilts.

Tenders must be returned by TUESDAY, 20th September, 1960.

The Council does not bind itself to accept the lowest or any Tender.

W. S. G. MILLS,
Clerk of the Council.

Council Offices,
Bath Road,
Swindon.

CONTRACTS

CAMBRIDGESHIRE COUNTY COUNCIL.
CONSTRUCTION OF A ROUNDABOUT ON THE LONDON-NORWICH TRUNK ROAD (A.11) AT STETCHWORTH TOLL.

CONTRACT NO. 6017.

TENDERS are invited for the CARRYING-OUT of the ABOVE WORKS, which will comprise the PLACING of approx. 44,000 cu. yd. of GRANULAR FILL, the CONSTRUCTION of 11,500 sq. yd. of CARRIAGE-way, KERBING, SURFACE WATER DRAINAGE, and ancillary works.

Documents in respect of the work may be obtained from the County Surveyor, MR. R. LACEY, M.I.C.E., Shire Hall, Castle Hill, Cambridge.

Tenders, in the official envelope, must reach the undersigned not later than 9 a.m. on TUESDAY, 27th September, 1960.

CHARLES PHYTHIAN,
Clerk of the Council.

Shire Hall,
Castle Hill,
Cambridge.

LANCASHIRE COUNTY COUNCIL.

COUNTY ARCHITECT'S DEPARTMENT.

TO ALL BUILDING CONTRACTORS.

APPROVED LIST OF BUILDING CONTRACTORS.

Firms desirous of having their names included in an approved list of contractors from whom the Lancashire County Council will invite TENDERS for NEW BUILDING and other WORKS should make application to the County Architect, P.O. Box 26, County Hall, Preston, Lancashire.

The lists are as follows:

(1) Contracts estimated to cost over £15,000,
and up to £50,000.

(2) Contracts estimated to cost over £50,000,
and up to £100,000.

(3) Contracts estimated to cost over £100,000.

Contractors applying for their name to be included in any one or more of the lists.

Applications must be made on forms obtainable from the COUNTY ARCHITECT at the address given above, and returned on or before 12th SEPTEMBER, 1960.

Tenders will be considered only from contractors included in the official lists, which will be revised from time to time by the County Council after the consideration of applications.

BOROUGH OF NEWBURY.

SEWAGE EFFLUENT PUMPING STATION AND RISING MAIN.

TENDERS are invited for the CONSTRUCTION of a SEWAGE EFFLUENT PUMPING STATION, together with 300 lin. yd. of 21in. RISING MAIN, and ancillary Works.

Forms of Tender and Bills of Quantities may be obtained from the Borough Surveyor, Municipal Buildings, Newbury, at whose office Plans and General Conditions may be inspected.

Sealed Tenders endorsed "Sewage Effluent P.S." must be delivered to the undersigned not later than MONDAY, 12th September, 1960.

The Corporation does not bind itself to accept the lowest or any Tender.

LESLIE SOUTHERN,
Town Clerk.

ROTHERHAM RURAL DISTRICT COUNCIL.

SLADE HOOTON SEWAGE DISPOSAL.

TENDERS are invited for the RECONSTRUCTION of EXISTING SEWAGE DISPOSAL WORKS, comprising Certain Demolition, Diversion of approx. 250 lin. yd. of Outfall Sewers, 9in. and 12in. in diameter, Construction of Two Pumping Stations, Screens and Dewatering Pump Unit, Detritus Chambers, Sedimentation Tanks, Dosing Chambers and Bacteria Beds, Humus Tanks, Sludge Digestion Tank, Sludge Lagoons and Dried Sludge Storage Bays, and Modifications to Existing Bacteria Beds, together with Incidental Works, in accordance with the Drawing, Specification and Bills of Quantities prepared by the Engineers, A. H. S. WATERS AND PARTNERS, of 25 Temple Row, Birmingham, 2.

The Drawings may be seen at, and the General Conditions of Contract, Specification, Bills of Quantities and Form of Tender may be obtained from the Engineers, on or after the 31st August, 1960, on payment of a deposit of Five Guineas, which will be refunded upon receipt of a bona-fide Tender and the return of all documents.

Sealed Tenders on the form supplied and in the endorsed envelope provided, are to be delivered to me at my office not later than Noon on the 7th OCTOBER, 1960.

The Council does not undertake to accept the lowest or any Tender.

E. F. L. DANBURY,
Clerk of the Rural District Council.

Council Offices,
Moorgate,
Rotherham,
Yorkshire.

18th August, 1960.

WEST CORNWALL WATER BOARD.

DRIFT WATER SCHEME.

CONTRACT NO. 5—LEHA AND CRYOR RESERVOIRS.

The Board invite FIXED-PRICE TENDERS from experienced contractors for the CONSTRUCTION of TWO CONCRETE SERVICE RESERVOIRS with capacities of 500,000 gallons and 150,000 gallons, on sites in West Cornwall.

The reservoirs are of similar design, being rectangular in plan, with normally reinforced concrete walls, columns and flat slab roof.

The General Conditions of Contract, Specification, Bills of Quantities and Form of Tender for Contract, prepared by the Engineers, HERBERT LAPWORTH PARTNERS, 25 Victoria Street, Westminster, S.W.1, may be obtained from the undersigned on or after Monday, 29th August, 1960, on receipt of a cheque for £5, made payable to the West Cornwall Water Board, which will be returned upon receipt of a bona-fide Tender.

Tenders, together with all documents received, are to be enclosed in a sealed cover endorsed "Drift Water Scheme—Tender for Contract No. 5—Leha and Cryor Reservoirs," and addressed to the undersigned, and delivered not later than 10 a.m. on MONDAY, 26th September, 1960.

Only Tenders from firms experienced in this type of work will be considered.

The Board do not bind themselves to accept the lowest or any Tender.

E. O. WHEALE,
Clerk to the Board.

Municipal Buildings,
Penzance,
Cornwall.

18th August, 1960.

CONTRACTS

COUNTY BOROUGH OF WEST BROMWICH.

ERCTION OF 239 DWELLINGS AT CHARLEMONT FARM ESTATE, WEST BROMWICH.

TENDERS are invited for 163 HOUSES, 76 TWO-STORY FLATS and 149 GARAGES.

Bills of Quantities and Forms of Tender will be available on Monday, 29th August, 1960.

Tenders should be sent in a sealed envelope endorsed "Contract No. 4—239 Dwellings," so as to reach the undersigned not later than 12 Noon on MONDAY, 26th September, 1960.

The Council does not bind itself to accept the lowest or any Tender.

W. H. GREENWOOD,
Borough Engineer and Surveyor.

Town Hall,
West Bromwich.

BOROUGH OF WEYMOUTH AND MELCOMBE REGIS.

The Corporation proposes to invite TENDERS for the ERCTION of 26 OLD PEOPLE'S BUNGALOWS AS INFILLING ON THE VILLAGE CENTER IN THE BOROUGH, and are preparing a list of selected contractors.

Contractors desirous of being included in this list are invited to apply to the Borough Engineer, 6 Pulteney Buildings, Weymouth, not later than First Post on TUESDAY, 6th September.

E. J. JONES,
Town Clerk.

Town Clerk's Office,
Weymouth.
August, 1960.

BOROUGH OF HEYWOOD.

ERCTION OF PRECAST CONCRETE GARAGES.

TENDERS are invited for the ERCTION of 25 PRECAST CONCRETE GARAGES on THREE SITES.

Specification, Site Plan and Form of Tender may be obtained from A. MIDDLETON, B.Sc., A.M.I.C.E., Borough Engineer and Surveyor, Municipal Buildings, Heywood, on payment of a deposit of £1 1s., to be refunded on receipt of a bona-fide Tender and the return of all Contract documents.

Tenders must reach the undersigned not later than First Post on MONDAY, 12th September, 1960, in the envelope provided and endorsed "Prefabricated Garages."

The Council does not bind itself to accept the lowest or any Tender.

W. R. PARKER,
Town Clerk.

Municipal Buildings,
Heywood.
15th August, 1960.

HITCHIN URBAN DISTRICT COUNCIL.

ERCTION OF HOUSES AND FLATS.

The Council invite FIXED-PRICE TENDERS for the ERCTION of 58 SINGLE-BEDROOM FLATS in Two- and Three-storey Blocks; Three Pairs of Two-bedroom, Eight Pairs of Three-bedroom and Two Blocks of Four BEDROOM HOUSES on their WESTMILL ESTATE, Hitchin.

Applications for Bills of Quantities and Form of Tender, accompanied by a deposit of £3 3s. (returnable after receipt of a bona-fide Tender not subsequently withdrawn), may be received by the Council's Surveyor by 29th August, 1960, at the undersigned address, where Plans and General Conditions of Contract may be inspected after that date.

Tenders and the Priced Bills of Quantities should be sent in the envelope provided (which must bear no mark indicating the sender), so as to reach me not later than Noon on WEDNESDAY, 5th October, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

W. WILSON,
Clerk of the Council.

Council Offices,
Brand Street,
Hitchin,
Herts.

KINGSCLEARE AND WHITCHURCH RURAL DISTRICT COUNCIL.

TADELY SEWAGE DISPOSAL.

TENDERS are invited from experienced contractors for ENLARGING the COUNCIL'S SEWAGE DISPOSAL WORKS at SILCHESTER, Hants.

The work consists of the Construction of Two Additional Sedimentation Tanks, Human Tanks and Filters, together with Sludge Drying Beds, 12in. dia. Pumping Main and other incidental works.

Tendering documents may be obtained from the Council's Consulting Engineers, MESSRS. LEMON AND BLIZARD, Tefford House, Hulse Road, Southampton, on Monday, the 29th August, and applications should be accompanied by a deposit value £5, made payable to the Council which will be returned upon receipt of a bona-fide Tender.

Plans of the work may be inspected at the Office of the Engineers or at the Council Offices, Swan Street, Kingsclere, Hants.

Tenders, in plain sealed envelopes endorsed "Tenders for Sewerage," should be received by the undersigned not later than MONDAY, 26th September, 1960.

The Council does not bind itself to accept the lowest or any Tender.

F. A. H. KEATES,
Clerk of the Council.

Council Offices,
Kingsclere,
Near Newbury,
Berks.

WOKINGHAM RURAL DISTRICT COUNCIL.

SOUTHLAKE ESTATE—WOODLEY.

FOOTWAYS AND VERGES.

FIRM-PRICE TENDERS are invited for LAYING approx. 850 lin. yd. of PRECAST CONCRETE EDGING and 2,000 super. yd. of TARMACADAM FOOTWAY, together with Garage Spaces, Verges, and ancillary works.

Tender documents and Drawings may be obtained from the Council's Chief Engineer on payment of a deposit of One Guinea, returnable on receipt of a bona-fide Tender not subsequently withdrawn, and all documents and Drawings.

Tenders, in plain sealed envelopes endorsed "Tender—Southlake Estate Footways," must be delivered to the undersigned not later than Noon on TUESDAY, 6th September, 1960.

The Council does not bind itself to accept the lowest or any Tender.

GEOFFREY HEATH,
Clerk of the Council.

Council Offices,
Shute End,
Wokingham.

CONTRACTS

COUNTY BOROUGH OF BRIGHTON. WATER DEPARTMENT.

PATCHAM PUMPING STATION—CONTRACT NO. 4. STERILISATION PLANT.

TENDERS invited for the MANUFACTURE, DELIVERY, ERECTION and SETTING to WORK of STERILISATION EQUIPMENT at the ABOVE PUMPING STATION.

Conditions General, Conditions of Contract, Drawings, Specification and Form of Tender obtainable from the Chief Engineer, 12 Bond Street, Brighton, 1. Deposit of £2 2s. will be refunded on receipt of a bona-fide Tender and return of documents supplied.

Tenders, enclosed in plain sealed envelopes, not bearing any name or mark indicating the sender and endorsed "Patcham—Contract No. 4—Sterilisation Plant," must be delivered to me before Noon on FRIDAY, 30th September, 1960.

The Corporation do not bind themselves to accept the lowest or any Tender.

W. O. DODD,
Town Clerk.

Town Hall,
Brighton.
August, 1960.

COUNTY BOROUGH OF BRIGHTON. WATER DEPARTMENT.

BEVENDEAN RESERVOIR.

TENDERS invited from experienced contractors for the CONSTRUCTION of a 11/2 MILLION GALLON REINFORCED CONCRETE RESERVOIR, and ancillary Works at BEVENDEAN, Brighton.

Specification, Bill of Quantities and Contract documents obtainable from Chief Engineer, 12 Bond Street, Brighton. Deposit of £5 5s. will be refunded on receipt of a bona-fide Tender and return of documents supplied.

Tenders, enclosed in plain sealed envelopes, not bearing any name or mark indicating the sender and endorsed "Tender for Bevendean Reservoir," to be delivered to me before Noon on FRIDAY, 30th September, 1960.

The Corporation do not bind themselves to accept the lowest or any Tender.

W. O. DODD,
Town Clerk.

Town Hall,
Brighton.
August, 1960.

COUNTY BOROUGH OF BRIGHTON. WATER DEPARTMENT.

PATCHAM PUMPING STATION.

REMOTE AUTOMATIC CONTROL EQUIPMENT.

FIXED-PRICE TENDERS invited for the MANUFACTURE, DELIVERY, ERECTION, TESTING and SETTING in OPERATION Equipment for Remote and Local Automatic Control of Electrically Driven Submersible Well and Surface Booster Pumps.

Specification and particulars from Chief Engineer, Water Department, 12 Bond Street, Brighton, on payment of Two Guineas deposit, to be refunded on receipt of a bona-fide Tender and return of all documents.

Tenders, in plain sealed envelopes, endorsed "Remote Control Patcham Pumping Station," to be delivered to me Noon on 30th SEPTEMBER, 1960.

The Corporation do not bind themselves to accept the lowest or any Tender.

W. O. DODD,
Town Clerk.

Town Hall,
Brighton.
15th August, 1960.

BOROUGH OF BEWDLEY.

SPRINGHILL ESTATE.

SITE WORKS.

APPLICATIONS are invited from contractors wishing to TENDER for THIS WORK, which comprises the FOLLOWING:

4,750 super. yd. of Tarmacadam Roadways.
2,350 super. yd. of Tarmac Pavements.
2,500 ft. run 6in. diameter Drains.
2,200 ft. run 6in. diameter Sewers.
1,600 ft. run 9in. diameter Sewers.
900 ft. run 30in. diameter Culverts.

Applications for the Bills of Quantities should be accompanied by a deposit of Three Guineas, returnable on receipt of a bona-fide Tender and forwarded to the Council's Architect, MESSRS. PEMBERTON AND BATEMAN, F.A.R.I.B.A., 21 Vine Street, Evesham, not later than First Post of FRIDAY, 2nd September, 1960. The date for the return of Tenders will be communicated when Bills of Quantities are sent out.

WINSTON O. E. BRYAN,
Town Clerk.

Municipal Offices,
Bewdley.
16th August, 1960.

BOROUGH OF HEMEL HEMPSTEAD.

SEATON ROAD, RUNHAM ROAD AND WOOD CRESCENT—REAR DIVISION FENCING.

TENDERS are invited for the SUPPLY and ERECTION of approx. 2,800yd. of 3ft. high CLEFT CHESTNUT FENCING on DRIVEN STAKES, including the Removal and Disposal of Existing Dilapidated Fencing, to 60 COUNCIL HOUSES in SEATON ROAD, RUNHAM ROAD and WOOD CRESCENT.

The Specification and Form of Tender may be obtained from A. H. TURNER, A.M.I.C.E., Borough and Water Engineer, High Street, Hemel Hempstead, Herts., at whose office the General Conditions of Contract will be available.

Tenders, in plain sealed envelopes endorsed "Rear Division Fencing," bearing no name or indication of the sender, must be delivered to me not later than 12 Noon on FRIDAY, the 30th September, 1960.

C. W. G. T. KIRK,
Town Clerk.

Town Hall,
High Street,
Hemel Hempstead,
Herts.
August, 1960.

CHISLEHURST AND SIDCUP URBAN DISTRICT COUNCIL.

ERECTION OF 12 FLATS, WINDSOR ROAD, FOOTS CRAY.

Contractors wishing to TENDER should apply immediately to Engineer and Surveyor, Manor House, Sidcup, enclosing £2 2s., refundable on receipt of a bona-fide Tender not subsequently withdrawn. Bills of Quantity will be despatched early in September.

T. W. FAGG,
Clerk of the Council.

Council Offices,
Sidcup Place,
Sidcup.

Tenders, in plain sealed envelope endorsed "Chislehurst and Sidcup Estate Footways—Stage I," should be returned to the undersigned by 10 a.m. on THURSDAY, 1st September, 1960.

H. O. HAWKINS,
Clerk of the Council.

Rural Council House,
Saltergate,
Chesterfield.

NOTTINGHAMSHIRE COUNTY COUNCIL.

NOTTINGHAMSHIRE COUNTY COUNCIL.

KING'S LYNN-SLEAFORD-NEWARK TRUNK ROAD. A.17.

RECONSTRUCTION OF BEACON HILL RAILWAY BRIDGE, NEWARK.

TENDERS are invited for the DEMOLITION of the EXISTING BRIDGE, the CONSTRUCTION of a NEW BRIDGE, having a clear Span of 32ft. 34in. 27ft. 3in. in Composite Prestressed Construction, supported on Mass Concrete Abutments and Reinforced Concrete Piers, the Provision of Earth Embankments and the Construction of approx. 500yds. of Roadworks.

General documents may be obtained from the County Surveyor, Shire Hall, Nottingham, on payment of £10 deposit, which will be returned on receipt of a bona-fide Tender not subsequently withdrawn and the return of the Contract Drawings.

Tenders in the envelope provided, should be delivered to the undersigned not later than First Post on FRIDAY, 30th September, 1960.

The Council does not bind itself to accept the lowest or any Tender.

A. R. DAVIS,
Clerk of the County Council.

GLOUCESTERSHIRE COUNTY COUNCIL.

SHIRE HALL REDEVELOPMENT—PHASE I.

The County Council are shortly to commence MAJOR RECONSTRUCTION WORK on the ABOVE. The first phase will include New Council Chamber, Canteen and Boiler House to serve further phases. The Construction will be of Steel and Concrete Framed walls with Concrete Floors, Brick Infill Panels and Stone Dressings.

The County Council are prepared to receive names of general contractors who wish to be considered for this work, and from these applications a certain number of contractors will be selected to submit Tenders in due course.

Names and addresses, together with other relevant information contractors may wish to submit, should be forwarded to the County Architect, Shire Hall, Gloucester, not later than 10th SEPTEMBER, 1960.

GUY H. DAVIS,
Clerk of the County Council.

WOKING URBAN DISTRICT COUNCIL.

MAKING-UP OF PRIVATE STREET.

NORFOLK FARM ROAD.

TENDERS are invited for ABOVE WORK, comprising the following approximate quantities:

3,150 sq. yd. Carriageway.
800 lin. yd. 5in. to 10in. Concrete Kerb.
1,200 lin. yd. Pavement.

Tender documents from Engineer and Surveyor, upon payment of Two Guineas, refunded only on receipt of bona-fide Tender not subsequently withdrawn. Plans seen normal office hours at Engineer's office.

Tender to CLERK OF THE COUNCIL by 8.45 a.m., 20th SEPTEMBER, 1960.

ASHTON-IN-MAKERFIELD URBAN DISTRICT COUNCIL.

LOW BANK ROAD HOUSING ESTATE.

CONSTRUCTION OF ROADS AND SEWERS.

SCHEME NO. 2.

TENDERS are invited for the CONSTRUCTION of ROADS, SEWERS and ancillary Work on this ESTATE. The Contract will include approx. 4,500 super. yd. of Bituminous Surfacing to Carriageway, 3,350 super. yd. of Reinforced Foundations, 1,800 super. yd. of Kerbing and Channelling, and 3,650 lin. yd. of 4in. to 15in. Pipe Sewers.

Specifications and Bills of Quantities can be obtained on application to the Surveyor and Waterworks Engineer, Town Hall, Ashton-in-Makerfield, and Drawings can be examined at his office during office hours.

Tenders are to be delivered in plain sealed envelopes not bearing any name or mark indicating the sender and endorsed "Site Works—Scheme No. 2—Low Bank Road Housing Estate," and designed not later than the 24th SEPTEMBER, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

FRANK DEAN,
Clerk of the Council.

TOWN HALL,
Ashton-in-Makerfield.

BEDWORTH URBAN DISTRICT COUNCIL.

SUPPLY AND ERECTION OF POST AND RAIL FENCING, NEW ROAD, EXHALL.

TENDERS are invited from experienced fencing contractors for the PROVISION and ERECTION of approx. 18 lin. yd. of POST and RAIL FENCING.

Conditions of Contract, Schedule and Form of Tender may be obtained on application to the Council's Engineer and Surveyor, Council Offices, High Street, Bedworth, Warwickshire, Nuneaton.

Sealed Tenders, in the envelope provided, to be delivered to the undersigned not later than 9 a.m. on SATURDAY, 3rd September, 1960.

S. G. DEEMING,
Clerk of the Council.

COUNCIL OFFICES,
Bedworth.NEAR NUNEATON,
Warwicks.

CHESTERFIELD RURAL DISTRICT COUNCIL.

TENDERS are invited for the CONSTRUCTION of the FOLLOWING WORKS:

Parish of Eckington—Charnock Hall Estate.
Gleadless—Footpaths, Verges, and Incidental works. Stage I—comprising 708 lin. yds. Precast Concrete Edging 6in. x 2in.; 807 sq. yd. Tarmacadam; 381 sq. yd. Verge.

Plans and General Conditions of Contract may be seen at the Engineer's Department. Bills of Quantities, Specification and Form of Tender may be obtained on application to the Council's Engineer and Surveyor, MR. B. W. WILKIE, M.I.C.E., M.I.M.E., Buxtonister, Buxtonister, Rural Council House, Saltergate, Chesterfield, on payment of a deposit of Two Guineas by cheque, refundable on receipt of a bona-fide Tender not subsequently withdrawn, together with all the documents.

Tenders, in plain sealed envelope endorsed "Charnock Hall Housing Estate Footpaths—Stage I," should be returned to the undersigned by 10 a.m. on THURSDAY, 1st September, 1960.

H. O. HAWKINS,
Clerk of the Council.

Rural Council House,
Saltergate,
Chesterfield.

CONTRACTS

ADMIRALTY.

N.A.T.O. COMMON INFRASTRUCTURE SLICE VIII.
NAVAL BASE INSTALLATIONS.

Preliminary Notice is hereby given that International Competitive BIDS will be invited early in 1961 for the CONSTRUCTION of a P.O.L. STORAGE DEPOT in the U.K.

The works include Storage Tanks totalling about 150,000 m³, Pipelines, Jetty, Hose Handling Appliances, Pumping Plant, Steam Heating and Electrical Services.

A further Notice will be issued and will provide details enabling Contractors to indicate their desire to bid.

Inquiries regarding Bidding, Specifications and Conditions of Contract should not be made until this further Notice is issued.

Admiralty, S.W.1.

ADMINISTRATIVE COUNTY OF LEICESTER.

TENDERS are invited for the RECONSTRUCTION of a SECTION of ROUTE A.50, from the LEICESTER CITY BOUNDARY to HIGHFIELDS DRIVE, WIGSTON, a length of approximately half a mile.

The Works consist of the Provision of dual 24ft. Carrigeway, Flexible Construction, Footpath, Driveway and Accommodation Works.

Further details and Form of Tender from the County Engineer and Surveyor, County Offices, Grey Friars, Leicester, on deposit of £5.

Closing date, 16th SEPTEMBER, 1960.
JOHN A. CHATTERTON,
Clerk of the County Council.

Grey Friars,
Leicester.

BOROUGH OF WORKSOP.

TENDERS are invited for the MACHINE SURFACING of approx. 20,000 sq. yd. of CARRIAGEWAY in the Borough of Worksop.

Particulars may be obtained from the Borough Engineer, Park House, Worksop.

Closing date for Tenders, 9th SEPTEMBER, 1960.

RUSSELL C. PHARAOH,
Town Clerk.

Town Hall,
Worksop.
Notts.

BOROUGH OF COLCHESTER.

PREPARATORY WORKS IN CONNECTION WITH THE SHRUB END REFUSE TIP.

TENDERS are invited for CIVIL ENGINEERING WORKS in connection with the NORMALISATION of a REFUSE TIP at Shrub End, Colchester, involving the Construction of a Lagoon and ancillary works, and the Preparation of Hardstandings, Drainage and other works to the Refuse Tip Access.

General Conditions of Contract may be inspected at, and Drawings, Specification, Bills of Quantities and Form of Tender obtained from the Office of the Borough Engineer.

Applications must be accompanied by a deposit of Two Guineas, which will be returned upon receipt of a bona-fide Tender and return of Contract documents.

Tenders, in plain envelopes, which must show no indication of the sender, endorsed "Tender—Preparatory Works in connection with the Shrub End Refuse Tip," must be delivered to the undersigned not later than 12 Noon on MONDAY, 19th September, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

J. S. ORCHARD, A.M.I.C.E.,
Borough Engineer.

1 West Stockwell Street,
Colchester, Essex.

CITY AND COUNTY OF LICHFIELD.

CONSTRUCTION OF TRAFFIC ISLAND AT BIRMINGHAM ROAD—TRUNK ROAD A.38.

TENDERS are invited for the CONSTRUCTION of a TRAFFIC ISLAND at the Junction of Birmingham Road, Trunk Road A.38, and Old Birmingham Road, B.512.

Tender documents may be obtained from the Office of the City Engineer and Surveyor, 62 Wade Street, Lichfield, on payment of a deposit of £2 2s., which will be returned on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, shown as returned, under plain cover, endorsed "Traffic Island," to the Town Clerk, Guildhall, Lichfield, not later than 12 Noon on MONDAY, 9th September, 1960.

Plans can be inspected at the Office of the City Engineer and Surveyor during normal working hours.

The City Council do not bind themselves to accept the lowest or any Tender.

H. J. CALLENDER,
Town Clerk.

Guildhall,
Lichfield.
12th August, 1960.

CITY OF MANCHESTER.

TENDERS invited for ALTERATIONS to FORM POLICE DRIVING SCHOOL at ST. JOSEPH'S BUILDINGS, LONGSIGHT.

Bill of Quantities from CITY ARCHITECT, P.O. Box 488, Town Hall.

Tenders, returnable by 9th SEPTEMBER, 1960.

BANSTEAD URBAN DISTRICT COUNCIL.

BRIGHTON ROAD, A.217—IMPROVEMENT AT MARGERY LANE JUNCTION.

TENDERS are invited for the REALIGNMENT and IMPROVEMENT of BRIGHTON ROAD, A.217, at its junction with MARGERY LANE, LOWER KINGSWOOD.

The Works comprise the Construction of 1,650 sq. yd. Lean Mix Concrete Carrigeway, Foundation, 300 tons Dense Tar Base Course, 3,300 sq. yd. Rolled Asphalt Surfacing, 500 lin. yd. Kerbing, together with Surface Water Drainage Works, the Construction of Glass Driveways and other ancillary Works.

Specifications and Bills of Quantities may be obtained from, and Conditions of Contract and Drawings may be inspected at, the office of the Engineer and Surveyor upon a payment of deposit of £3, returnable on receipt of a bona-fide Tender not subsequently withdrawn. Tenders, in plain envelopes endorsed "Tender for Brighton Road, A.217—Margery Lane Improvement," must be returned to the undersigned not later than TUESDAY, 20th September, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

F. L. SHAW,
Clerk of the Council.

The Council House,
Brighton Road,
Banstead, Surrey.
16th August, 1960.

CONTRACTS

ROYAL COUNTY OF BERKSHIRE.

THE NURSERY AND JOYOUNT SITES,
OXFORD ROAD, ABINGDON.

ADVANCE ROAD AND DRAINAGE WORKS.

TENDERS are invited for the CONSTRUCTION of ADVANCE ROAD and DRAINAGE WORKS on the ABOVE SITE. The Works involved in this Contract are as follows:

1,800 sq. yd. of Clinker and Hardcore

1,800 sq. yd. of Tarspray and Chippings.

740 lin. yd. of 6in. Concrete Haunch.

370 lin. yd. of 9in. Surface Water Drain.

55 lin. yd. of 9in. Surface Water Drain.

Totals with Excavation, Manholes, Gullies and appurtenant Works.

Drawings may be inspected at, and Specification, Bill of Quantities and Form of Tender obtained from, the Office of the COUNTY SURVEYOR, Shire Hall, Reading, on payment of a deposit of £2 (Two Pounds), which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in the envelope provided, must be returned not later than First Post, MONDAY, 12th September, 1960.

The Council does not bind itself to accept the lowest or any Tender.

COUNTY BOROUGH OF SOUTHAMPTON.

CONTRACTS

COUNTY BOROUGH OF SOUTHAMPTON.

The above Council invites TENDERS—FORMATION of PLAYING FIELDS on West Side of STONEHAM LANE, Southampton, including Earthwork, Drainage, Tennis Courts, Water Supply, Planting and Seeding, Fencing and Particulars (including Bill of Quantities) from BOROUGH Architect on written application by 3rd SEPTEMBER, 1960.

R.I.B.A. Contract plus Supplementary Conditions available for inspection.

Tender to TOWN CLERK, Civic Centre, Southampton, by 10 a.m., 28th SEPTEMBER, 1960.

CITY OF ROCHESTER.

MAKING-UP OF OLD PATTENS LANE—STAGE I—
CITY WAY TO BOUNDARY ROAD.

CONSTRUCTION OF ROADS AND SEWERS.

TENDERS are invited for the CONSTRUCTION of APPROX. 850 sq. yd. of HARDCORE TARMACADAM CARRIAGEWAY, KERBING, PRECAST CONCRETE SLAB PAVING, 100 lin. yd. of 9in. dia. SURFACE WATER SEWER, and ancillary works.

Drawings and General Conditions of Contract may be seen at the Office of J. A. PEEL, A.M.I.C.E., M.I.M.U.R., City Surveyor, 66 Maidstone Road, Rochester, during normal working hours, and from whom the Form and Conditions of Tender, Special Conditions of Contract, Specification and Bill of Quantities may be obtained on payment of a deposit of £2 2s., which will be refundable on the acceptance of a bona-fide Tender.

Tenders must be delivered to the undersigned, in the manner detailed in the above documents, not later than 12 Noon on FRIDAY, 16th September, 1960.

The Corporation do not bind themselves to accept the lowest or any Tender.

PHILIP H. BARTLETT,

Town Clerk.

Guildhall,
Rochester, Kent.

18th August, 1960.

WOKING URBAN DISTRICT COUNCIL.

COMPLETION WORKS.

SUNDRIDGE ROAD, ST. PETERS ROAD,
MULGRAVE WAY.

TENDERS are invited for the ABOVE, comprising approximately 1,800 sq. yd. of Surfacing, Footpaths, Hardstandings, and ancillary Works.

Tenders, in plain sealed envelope, from Engineer and Surveyor, on payment of Two Guineas deposit, refundable only on receipt of a bona-fide Tender not subsequently withdrawn.

Plans seen during normal office hours at Engineer's office.

Tenders to be delivered to CLERK OF THE COUNCIL by 8.45 a.m., WEDNESDAY, 21st September, 1960.

SAWBRIDGEWORTH URBAN DISTRICT COUNCIL.

SHEERING MILL LANE ROAD IMPROVEMENT.

FIXED-PRICE TENDERS are invited for the RE-SURFACING of APPROX. 2,570 sq. yd. of CARRIAGE-WAY, and incidental works, at Sheering Mill Lane.

General Conditions of Contract, Specifications, Bills of Quantities and Form of Tender may be obtained from the Surveyor, Council Offices, Sawbridgeworth, Herts.

Tenders, in plain sealed envelope endorsed "Sheering Mill Lane," must reach the undersigned not later than 12 Noon on MONDAY, 19th September, 1960.

The Council does not bind itself to accept the lowest or any Tender.

R. GODFREY,

Clerk of the Council.

Council Offices,
Sawbridgeworth,
Herts.

SCALBY URBAN DISTRICT COUNCIL.

RELIEF OUTFALL AND STORM OVERFLOW SEWERS.

The Council are prepared to receive TENDERS for the CONSTRUCTION of (a) 1,356 lin. yd. of 18in. dia. SPUN CONCRETE RELIEF SEWER at SCALBY; (b) 144 lin. yd. of 15in. dia. SPUN CONCRETE STORM OVERFLOW SEWER at NEWBY; together with the necessary Manholes and Manhole Conversions, and other ancillary works.

Tenders are to be submitted in the plain, sealed envelope provided, endorsed "Street Lighting," which may not bear any name or mark indicating the sender, and must be delivered to the Clerk of the Council, Council Offices, Crofton Road, Orpington, Kent, not later than 12 Noon on MONDAY, 26th September, 1960.

The Council does not bind themselves to accept the lowest or any Tender.

J. W. FREEMAN,

Engineer and Surveyor.

Civic Offices,
The Walks,
High Street,
Orpington,
Kent.

Scalby U.D.C.,
Scalby,
Scarborough.

ATHERSTONE RURAL DISTRICT COUNCIL.

WARTON HOUSING ESTATE—NO. 3.

TENDERS are invited for SITE PREPARATION WORKS in connection with the ABOVE HOUSING DEVELOPMENT in the Parish of Warton, comprising APPROX. AS FOLLOWS:

257 lin. yd. of 6in. and 9in. dia. Sewers;

235 lin. yd. of Precast Concrete Kerbing;

650 super. yd. of Ashed, Pitched and Tarred macadam Carrigeways;

650 super. yd. of Precast Concrete Footpaths; together with General Site Grading, Excavation, and other works incidental thereto.

The Contract documents, including Bills of Quantities, may be obtained from MR. D. C. SMITH, Engineer and Surveyor, Council Offices, Athertonstone, on payment of a deposit of £2 2s., which will be refundable on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders must be submitted to the undersigned, in a plain sealed envelope endorsed "Warton No. 3 Site," not later than 12 Noon on MONDAY, 19th September, 1960.

The Council do not bind themselves to accept the lowest or any Tender, nor to defray the cost of preparation thereof.

G. CARLYON MAY,

Clerk of the Council.

Council Offices,
Atherstone,
Warwickshire.

URBAN DISTRICT COUNCIL OF BASILDON.

ERECTION OF 16 THREE-BEDROOM HOUSES IN TERRACES AT DEVONSHIRE ROAD-BULLER ROAD, LAINDON, ESSEX.

Experienced builders and contractors wishing to TENDER for the ABOVE WORK must apply for Tender documents to the Council's Engineer and Surveyor, 6B Town Square, Basildon, by 2nd SEPTEMBER, 1960.

The application must be accompanied by a deposit of Two Guineas, which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn and the return of all documents.

The Council does not bind itself to accept the lowest or any Tender.

G. S. NEWNHAM,
Clerk of the Council.

Manor House,
Turners Hill,
Cheshunt,
Herts.

Clerk of the Council.

URBAN DISTRICT COUNCIL OF CHESHUNT.

IMPROVED STREET LIGHTING, 1960.

TENDERS are invited for DISMANTLING EXISTING GAS AND ELECTRIC STREET LIGHTS and the SUPPLY and ERECTION of 150 ROAD LIGHTS, 15ft. mounting height LIGHTING COLUMNS and 147 15ft. height LIGHTING COLUMNS, and the FIXING of 140 Watt and 60 Watt SODIUM DISCHARGE LANTERNS and CONTROL GEAR. A P.C. sum is included for the supply of lanterns and control gear.

Forms of Tender, Specifications and Conditions of Contract and Drawings may be obtained from the Office of the Engineer and Surveyor, Manor House, Cheshunt, on payment of a returnable deposit of £2.

Tenders should be delivered to the undersigned not later than 12 Noon, 16th SEPTEMBER, 1960.

G. S. NEWNHAM,
Clerk of the Council.

Manor House,
Turners Hill,
Cheshunt,
Herts.

Clerk of the Council.

CONTRACTS

COUNTY BOROUGH OF NORTHAMPTON.

Contractors wishing to TENDER for the ERECTION of HIGHWAYS MAINTENANCE DEPOTS at PLEYDELL ROAD and GREENVIEW DRIVE, Northampton, should apply to the Borough Architect, Guildhall, Northampton, before 5th SEPTEMBER, enclosing crossed cheque (payable to Northampton Corporation) for £2 2s. This sum will be returned if a bona-fide Tender is received by the time and date stated on the Form of Tender.

C. E. VIVIAN ROWE,
Town Clerk.

COUNTY BOROUGH OF HALIFAX.

DRY PARTITIONING.

PERCIVAL WHITLEY COLLEGE OF FURTHER EDUCATION.

TENDERS are invited from firms specialising, or familiar with this type of work, for the SUPPLY, DELIVERY and FIXING of STANDARD TYPE DRY PARTITIONING required in connection with Internal Alterations at the ABOVE COLLEGE.

Plans and Specifications can be obtained from the Borough Engineer, Crossley Street, Halifax, and Tenders, endorsed "Dry Partitioning," must be delivered to the TOWN CLERK, Town Hall, Halifax, by 5th SEPTEMBER, 1960.

CITY OF LEICESTER.

KNIGHTON ROAD (PART) IMPROVEMENT.

RECONSTRUCTION OF CARRIAGeway, FOOTWAYS, AND MISCELLANEOUS WORKS.

TENDERS are invited from contractors experienced in similar works, for the FOLLOWING:

700 sq. yd. Lean Mix Concrete Carrigeway.
1,500 sq. yd. Bitumen Macadam Surfacing to Carrigeway.
1,700 sq. yd. Bitumen Macadam Footways.
100 sq. yd. 9in. Brickwork Boundary Wall; together with Site Clearance and Accommodation Works.

Full details and Forms of Tender are available from the undersigned on payment of One Guinea, refundable on receipt of a bona-fide Tender.

Tenders to be returned, in the official envelope provided, by 4.30 p.m. on WEDNESDAY, 21st September, 1960.

JOHN L. BECKETT, M.I.C.E.,
Town Hall,
Leicester.

CITY OF MANCHESTER.

FENCING.

TENDERS are invited for the SUPPLY of LOW HURDLE FENCING during the period 1st October, 1960, to 31st December, 1961.

Tender Forms, returnable by 6th SEPTEMBER, 1960, from the CITY SURVEYOR, Town Hall, Manchester, 2.

CITY OF PETERBOROUGH.

GUNTHORPE ROAD AND BRIDGE RECONSTRUCTION.

Work includes approx. 11,500 sq. yd. of ROAD-WAY PRESTRESSED BRIDGE GIRDERS, SURFACE WATER SEWER and WATER MAINS.

On payment of £2 deposit, Tender documents from City Engineer, Town Hall.

Tenders to be returned before Noon, 13th SEPTEMBER, 1960, to C. PETER CLARKE, Town Clerk, Town Hall, Peterborough.

August, 1960.

BOGNOR REGIS URBAN DISTRICT COUNCIL.

SEA DEFENCE WORKS AT FELPHAM.

TENDERS will shortly be invited for the CONSTRUCTION of SEA DEFENCE WORKS at the WESTERN END of Felpham, comprising Seven New Hardwood Groynes, Extensions to Four Existing Groynes, Easements in Concourse of about 700ft. of Old Sea Wall and Two New Concreted Slipways, and Stair Steps and ancillary works.

The Limit of Retention Money will be £4,000, and the time allowed for construction 12 months.

Firms applying to tender shall have had experience in major works of Coast Protection and shall have the necessary resources to execute the works within the Contract period.

Firms wishing to tender should apply to the Council's Consulting Engineers, MESSRS. LEWIS AND DUVIVIER, 14 Howick Place, Westminster, S.W.1, as soon as possible.

Contractors will be allowed a month to prepare their Tenders, and it is anticipated that the Contract documents and Drawings will be ready for distribution by the end of August.

The Council do not bind themselves to accept the lowest or any Tender.

R. W. J. HILL,
Town Hall,
Bognor Regis.

CANNOCK URBAN DISTRICT COUNCIL.

LONGFORD ROAD, CANNOCK—NO. 34 HOUSING SITE (FIRST PHASE).

ROADS AND SEWERS.

TENDERS are invited from experienced civil engineering contractors for the CONSTRUCTION of the ROADS and SEWERS on the ABOVE HOUSING SITE.

The work comprises of the Construction of approx. 3,500 lin. yd. of Bituminous Macadam Carrigeways (16ft., 22ft., 24ft. wide); 700 lin. yd. of Concrete Carrigeways (14ft. wide); 3,850 lin. yd. of Storm and Foul Sewers (6in. to 24in. dia.), together with ancillary works.

Drawings may be inspected at the Office of the Council's Engineer and Surveyor, at the address indicated below, during normal office hours.

It is anticipated that copies of the Specification and Bills of Quantities will be obtainable from the Engineer and Surveyor, on or before 3rd September, 1960, on payment of a deposit of Three Guineas, which will be refunded on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes bearing no name or mark indicating the sender, and endorsed "Housing Site No. 34—1st Phase," must be delivered to me not later than 9.30 a.m. on the 17th SEPTEMBER, 1960.

H. C. ALLEN,
Clerk of the Council.

Council House,

The Green,
Cannock, Staffs.

CONTRACTS

COUNTY BOROUGH OF DUDLEY.

ERECTION OF 81 GARAGES—SALTWELLS ESTATE, DUDLEY.

Applications are invited from building contractors having the necessary plant, personnel and organisation, to be included in a list of contractors from whom TENDERS will be invited for the ABOVE WORK. The contract is on a Fixed Price Basis and comprises the ERECTION of 81 GARAGES on One Site, and 16 GARAGES on Another Site, together with Tarmacadam Paved Forecourts, Drainage, etc. The Construction is of Brick with Timber and Asbestos Roofs.

Application to tender must be submitted to the Borough Architect, 5 Ednam Road, Dudley, Worcs, not later than MONDAY, 12th September, 1960, and must be accompanied by a deposit of £2 2s., returnable upon receipt of a bona-fide Tender. Cheques to be made payable to Dudley Corporation. Forms of Tender, with Bill of Quantities, will be sent out shortly after the above closing date, and will be returnable to me.

P. D. WADSWORTH,
Town Clerk.

The Council House,
Dudley, Worcs.
18th August, 1960.

CITY OF BIRMINGHAM.

TO BUILDING CONTRACTORS.

CONTRACT 709/27 FOUR-STOREY DWELLINGS—TESSALL LANE, EGGHILL LANE ESTATE, NORTHFIELD.

The HOUSEBUILDING COMMITTEE invite FIRM-PRICE TENDERS for the ERECTION of the ABOVE. Bills of Quantities and Form of Tender will be forwarded on payment of £2 2s. at the Office of A. G. SHEPPARD FIDLER, City Architect, Civic Centre, Birmingham, 1, to whom all cheques should be made payable. Applications should be made by 30th AUGUST, 1960. Conditions of Contract (which include the usual Fair Wages and Conditions of Labour Clause) may be seen at the City Architect's Office during normal working hours.

The deposit will be returned on receipt of a bona-fide Tender, or on notification of inability to tender, together with the return of the documents not later than three days before the date for receipt of Tenders.

Tenders, enclosed in the envelope provided for the purpose, must be sealed and delivered to the Town Clerk's Office (Room No. B.31), Council House, Birmingham, 1, not later than 12 Noon on FRIDAY, the 30th September, 1960. Tenders received after that time will be rejected.

The Committee do not bind themselves to accept the lowest or any Tender.

T. H. PARKINSON,
Town Clerk.

Council House,
Birmingham, 1.

CITY OF BIRMINGHAM.

TO BUILDING CONTRACTORS.

CONTRACT G.18/98-110—248 LOCK-UP GARAGES—SHARD END ESTATE.

The HOUSEBUILDING COMMITTEE invite FIRM-PRICE TENDERS for the ERECTION of BRICKWORK GARAGES on 13 SITES within the Shard End Estate.

Bills of Quantities and Form of Tender will be forwarded on payment of £2 2s. at the Office of A. G. SHEPPARD FIDLER, City Architect, Civic Centre, Birmingham, 1, to whom all cheques should be made payable. Applications should be made by 30th AUGUST, 1960. Conditions of Contract (which include the usual Fair Wages and Conditions of Labour Clause) may be seen at the City Architect's Office during normal working hours.

The deposit will be returned on receipt of a bona-fide Tender, or on notification of inability to tender, together with the return of the documents not later than three days before the date for receipt of Tenders.

Tenders, enclosed in the envelope provided for the purpose, must be sealed and delivered to the Town Clerk's Office (Room No. B.31), Council House, Birmingham, 1, not later than 12 Noon on FRIDAY, the 30th September, 1960. Tenders received after that time will be rejected.

The Committee do not bind themselves to accept the lowest or any Tender.

T. H. PARKINSON,
Town Clerk.

Council House,
Birmingham, 1.

KIRKBY URBAN DISTRICT COUNCIL.

GROUP "A" STREET LIGHTING, 1960/61.

EAST LANCASHIRE ROAD, A.580.

TENDERS are invited for ANY or ALL of the FOLLOWING CONTRACTS:

Contract 50/13—Supply Only of 120 Group "A" Reinforced Concrete Columns, complete with Brackets.

Contract 60/13—Supply Only of 120 Group "A" Totally Enclosed 140-W Sodium Discharge Lanterns, together with all Lamps and Contractors' fees, etc.

Contract 50/14—Erection Only of 120 Group "A" Concrete Columns and Brackets. Fitting and Wiring of 140-W Sodium Lanterns and Equipment, and Bringing Into Service of the whole installation.

Specifications, Fixtures, Fixing of Tenders, Bills of Quantities may be obtained from Drawings and Conditions of Contract Inspected at the Office of the Engineer and Surveyor at the address given below. A deposit of £2 is required in respect of each Contract, which will be refunded upon the receipt of a bona-fide Tender, or subsequently withdrawn, or the return of the documents. Tenders for each Contract will be considered separately.

The Council do not bind themselves to accept the lowest or any Tender.

Tenders must reach the undersigned not later than Midday, 12th SEPTEMBER, 1960.

W. BYRON,
Clerk of the Council.

Council Offices,
Kirky Hall,
Hall Lane,
Kirky,
Near Liverpool.

COVENTRY CORPORATION.

The above Corporation invite FIRM-PRICE TENDERS for the ERECTION of THREE CLASSROOMS at ANNIE OSBORN PRIMARY SCHOOL, HEDGES ROAD.

Two Guineas deposit by 29th AUGUST, 1960, payable to Coventry Corporation, for documents (refundable on return of documents and receipt of Tender by closing date).

Completed Tenders by 16th SEPTEMBER to CITY ARCHITECT, Council House, Coventry.

CONTRACTS

SURREY COUNTY COUNCIL.

HIGHWAYS AND BRIDGES DEPT.

TENDERS are invited for RESURFACING 3,500 sq. yd. of CARRIAGeway in BITUMINOUS MACADAM, WIDENING 325 sq. yd. CARRIAGEWAY in Concrete, and ancillary works, on the DORKING BY-PASS (A.24).

Documents, returnable by 10th SEPTEMBER, 1960, from COUNTY ENGINEER, Highways and Bridges Department, County Hall, Kingston-upon-Thames.

DUMFRIES COUNTY COUNCIL.

ROADS.

CARLISLE-GLASGOW TRUNK ROAD, A.74—BEATTOCK DIVERSION.

TENDERS are invited for the ABOVE WORKS, which extend for length of about three miles and include the Construction of Dismantled Single Carrigeways, Bridges, Culverts and Drainage Works.

The Drawings may be seen at the Office of the County Surveyor, County Buildings, Dumfries.

Contractors will be met at Skellway, Beattock, at 10 a.m. on 10th SEPTEMBER, 1960.

Conditions of Contract, Form of Tender and Bill of Quantities may be obtained from the undersigned on payment of a deposit of Ten Guineas, returnable on receipt of a bona-fide Tender.

Sealed envelopes, marked "A.74 Improvement," should be lodged with the undersigned by 10 a.m. on 10th OCTOBER, 1960.

The lowest or any Tender may not be accepted.

LESLIE T. CARNEGIE,
County Clerk.

County Buildings,
Dumfries.

19th August, 1960.

WIRRAL URBAN DISTRICT COUNCIL.

PRIVATE STREET WORKS.

FIXED-PRICE TENDERS are invited for the MAINTENANCE of NIGEL ROAD, Barnston (approx. length 400 lin. yds.)

Plan and Conditions of Contract can be viewed at this Office during normal working hours, and Specification, Bill of Quantities and Form of Tender may be obtained on application to the Engineer and Surveyor, Council Offices, Heswall.

Tenders, in plain sealed envelopes endorsed "Nigel Road," must be delivered to the undersigned not later than 10 a.m. on SATURDAY, 10th September, 1960.

The Council does not bind itself to accept the lowest or any Tender received.

W. F. ROBERTS,
Clerk of the Council.

Council Offices,
Heswall, Wirral.

19th August, 1960.

WIRRAL URBAN DISTRICT COUNCIL.

PENSBY HALL ESTATE—STAGE 1.

CONSTRUCTION OF ROADS AND SEWERS.

FIXED-PRICE TENDERS are invited for the CONSTRUCTION of ROAD and SEWER WORKS at the ABOVE ESTATE, comprising approx. 390yd. of Carrigeway, 74yd. of 15in. dia. Sewer, 100yd. of 12in. dia. Sewer and 772yd. of 9in. dia. Sewer.

The Specification, Bills of Quantities and Form of Tender may be obtained on application to the Engineer and Surveyor, Council Offices, Heswall, at which Office the Conditions of Contract and Contract Drawings may be inspected.

Tenders, in plain sealed envelopes endorsed "Construction of Roads and Sewers—Pensby Hall Estate," must be delivered to the undersigned not later than 10 a.m. on SATURDAY, the 17th September, 1960.

The Council does not bind itself to accept the lowest or any Tender received.

W. F. ROBERTS,
Clerk of the Council.

Council Offices,
Heswall, Wirral.

19th August, 1960.

WIRRAL URBAN DISTRICT COUNCIL.

SURFACE WATER DRAIN—THURSTON TIPPING SITE.

FIXED-PRICE TENDERS are invited for the LAYING IN an existing Watercourse which runs through Thurston Tipping Site.

The Specification, Bill of Quantities and Form of Tender may be obtained on application to the Engineer and Surveyor, Council Offices, Heswall, at which Office the Conditions of Contract and Contract Drawings may be inspected.

Tenders, in plain sealed envelopes endorsed "Thurston Drain—Thurstaston," must be delivered to the undersigned not later than 10 a.m. on SATURDAY, 10th September, 1960.

The Council does not bind itself to accept the lowest or any Tender received.

W. F. ROBERTS,
Clerk of the Council.

Council Offices,
Heswall, Wirral.

19th August, 1960.

BURNHAM-ON-SEA URBAN DISTRICT COUNCIL.

CONTRACT NO. 37.

PROVISION AND ERECTION OF CONCRETE STREET LIGHTING COLUMNS AND SODIUM LANTERNs ON THE B.3139 AND B.3140 IN THE URBAN DISTRICT OF BURNHAM-ON-SEA.

TENDERS are invited from experienced contractors for the SUPPLY of 22 SODIUM LANTERNs, LAMPS and ELECTRICAL GEAR, and for the SUPPLY and ERECTION of 22 CONCRETE STREET LIGHTING COLUMNS, together with the FIXING and WIRING of the LANTERNs and ELECTRICAL GEAR, on the B.3139 and B.3140 in the Urban District of Burnham-on-Sea, Somerset.

Conditions of Contract and Drawings may be inspected at, and Specification, Bills of Quantities and Form of Tender obtained from G. HARVEY MAYHEW, M.I.M.E., Engineer and Surveyor, Manor House, Burnham-on-Sea, on payment of Two Guineas deposit, which will be refunded on receipt of a bona-fide Tender.

Tenders to be returned in the plain envelope provided to the undersigned not later than First Post on MONDAY, 19th September, 1960.

The Council does not bind itself to accept the lowest or any Tender it may receive.

J. DUNBAR,
Clerk of the Council.

Town Hall,
Burnham-on-Sea,
Somerset.

19th August, 1960.

CONTRACTS

FULWOOD URBAN DISTRICT COUNCIL.
PRIVATE STREET WORKS.
SHAROE MOUNT AVENUE.

TENDERS are invited for MAKING-UP the ABOVE STREET. Drawings and General Conditions may be seen at and Specification, Bills of Quantities and Form of Tender may be obtained from the Engineer and Surveyor, at the address below, on payment of a deposit of Two Guineas, which is returnable upon receipt of a bona-fide Tender.

Sealed Tenders, in the envelope provided, must be received not later than First Post on TUESDAY, 13th September, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

R. D. S. COTMAN,
Clerk of the Council.

Council Offices,
Garstang Road,
Fulwood, Lancs.
August, 1960.

FULWOOD URBAN DISTRICT COUNCIL.

AGED PERSONS' BUNGALOWS ON LAND OFF
SHAROE GREEN LANE SOUTH, FULWOOD.

TENDERS are invited for the CONSTRUCTION of ROADS, SEWERS and LAND DRAINAGE WORKS at the ABOVE-MENTIONED SITE.

The Scheme consists of approx. 1,500 sq. yds. of Concrete Pavement, 1,000 sq. yds. Footways, 900 lin. yd. of Precast Concrete Kerbs; 320 lin. yd. of 9in. and 6in. Salt Glazed Ware Sewers, including Manholes and ancillary works, and some Land Drainage Work.

The Drawings and General Conditions of Contract may be seen at the Council Offices, Garstang Road, Fulwood, Lancashire, and the Specification, Bills of Quantities and Form of Tender may be obtained from the Engineer and Surveyor at the same address, on payment of a deposit of Two Guineas, which is returnable upon receipt of a bona-fide Tender.

Sealed Tenders, in the envelope provided, must be received not later than the First Post on TUESDAY, the 20th September, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

R. D. S. COTMAN,
Clerk of the Council.

Council Offices,
Garstang Road,
Fulwood, Lancs.
August, 1960.

HOLMFIRTH URBAN DISTRICT
COUNCIL.

The above Council are prepared to receive separate TENDERS for: (a) CONSTRUCTION of ROADS and SEWERS; (b) ERECTION of 32 DWELLINGS; at ROUNDWAY HOUSE, HONLEY.

Contractors wishing to tender should apply in writing before the 14th September, 1960, for the tender documents (a) to the Surveyor, Market Street, Holmfirth, and (b) to MESSRS. P. N. BROWN AND SON, Market Place, Honley. Each such application should be accompanied by a crossed cheque for Two Guineas made payable to Holmfirth U.D.C. This deposit will be refunded on receipt of a bona-fide Tender, not subsequently withdrawn and the return of all Plans.

The Council have adopted the Government recommendation for fixed-price tendering.

Tenders should be sent, sealed in the appropriate envelope (which will be provided), and bearing no name or mark to identify the sender, to reach the CLERK OF THE COUNCIL, Council Offices, Holmfirth, not later than 10 a.m. on MONDAY, the 10th October, 1960.

SAFFRON WALDEN RURAL DISTRICT
COUNCIL.ASHDON SEWERAGE AND SEWAGE DISPOSAL.
TO CONTRACTORS.

The above-named Council invite TENDERS for the EXECUTION of SEWERAGE and SEWAGE DISPOSAL WORKS, comprising the Furnishing and Laving of about 3,500yds. of 6in. and 4in. dia. Stonewares and Spun-Iron Pipe, Sewers and Pumping Mains, Manholes, etc., and the Construction of a Sewage Pumping Station, Sedimentation Tanks, Percolating Filter House, Filter Slant Drying Beds, Pipework, and other appurtenant works.

Contractors desirous of tendering are requested to send their names and addresses to D. BALFOUR AND SONS, M.M.I.C.E., 131 Victoria Street, Westminster, London, S.W.1, accompanied by a cheque for £10 made payable to Saffron Walden Rural District Council, not later than 2nd SEPTEMBER, 1960, after which full particulars will be forwarded. The deposit will be returned on receipt of a bona-fide Tender and the receipt of all printed documents. It is essential that the contractor shall have had considerable experience in similar work and be prepared to furnish security with an approved society for the fulfilment of the Contract.

The lowest or any Tender will not necessarily be accepted by the Council.

A. W. OVERALL,
Clerk to the Saffron Walden R.D.C.

Council Offices,
Debenham Road,
Saffron Walden,
Essex.
22nd August, 1960.

BIGGLESWADE WATER BOARD.

ADDITIONAL SUPPLIES.

CONTRACT NO. 6—SUBMERSIBLE PUMPS.

The Biggleswade Water Board invites TENDERS from qualified manufacturers for the SUPPLY and ERECTION of TWO SUBMERSIBLE PUMPS in Boreholes. The Supply of the Associated Switchgear is not included.

Tender documents may be obtained from the Offices of the Engineers, MESSRS. BINNIE, DEACON AND GOFFLEY, Artillery House, Artillery Row, Westminster, London, S.W.1, on payment of a deposit of £10 made payable to the Biggleswade Water Board, which amount will only be refunded on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes endorsed "Tender for Pumps," must be delivered to my Office before Noon, TUESDAY, 13th September, 1960.

The Board does not undertake to accept the lowest or any Tender and will not defray any expenses in tendering.

W. M. HYDE,
Clerk to the Board.

23 London Road,
Biggleswade,
Beds.

CONTRACTS

DERBY COUNTY BOROUGH.
SHARDLOW ROAD HOUSING ESTATE, ALVASTON.
CONSTRUCTION OF ROADS, SEWERS AND
ANCILLARY WORKS.

TENDERS are invited for the CONSTRUCTION of the following approx. lengths of ROADS and SEWERS:

638 lin. yd. of 42ft. wide Street.
1,437 lin. yd. of 27ft. wide Street.
185 lin. yd. of 15in. dia. Sewer.
793 lin. yd. of 12in. dia. Sewer.
1,401 lin. yd. of 8in. dia. Sewer.
1,011 lin. yd. of 6in. dia. Sewer.

Together with various ancillary works.

At the ABOVE-MENTIONED SITE, which is about 3½ miles from the centre of Derby, on the London Road.

Specification, Bill of Quantities, Form of Tender and Drawings may be obtained from the Borough Engineer and Surveyor, The Council House, Derby, upon receipt of a deposit of £5 5s., which will be refunded only upon receipt of a bona-fide Tender, not subsequently withdrawn without a reason satisfactory to the Council, on the return of the deposit and other documents supplied for the purpose of tendering.

Additional Drawings may be inspected at Borough Engineer and Surveyor's Office during normal hours, 9 a.m.-1 p.m. and 2.15 p.m.-5.30 p.m., Monday to Friday.

Tenders, in a plain sealed envelope, endorsed "Tender for Site Works—Shardlow Road Estate," are to reach me by Noon on FRIDAY, 16th September. The Council does not bind itself to accept the lowest or any Tender.

N. S. FISHER,
Town Clerk.

The Council House,
Derby.
August, 1960.

COUNTY BOROUGH OF WALSALL.
PUBLIC WORKS DEPT.SURFACING OF DRILL YARD AND ACCESS DRIVE,
BLOXWICH FIRE STATION.

TENDERS are invited on behalf of the FIRE SERVICES COMMITTEE for the SURFACING of the DRILL YARD and ACCESS ROAD, approx. 530 sq. yds. in area, together with Drainage and other ancillary works.

Forms of Tender and appropriate documents can be obtained from the undersigned, on the deposit of Two Guineas, returnable on receipt of a bona-fide Tender.

Tenders must be sent in a sealed envelope addressed to the Town Clerk, Council House, Walsall, bearing the words "Surfacing of Drill Yard and Access Drive—Bloxwich Fire Station," and are to be received not later than 12 Noon, MONDAY, 5th September, 1960.

Any Tender received after the time stated, or otherwise than in an envelope endorsed as required, may be rejected.

An envelope suitably addressed and endorsed will be supplied with the Form of Tender, and it is desired that this envelope be used.

The Council do not bind themselves to accept the lowest or any Tender.

M. E. HABERSON,
Borough Engineer and Surveyor.

Council House,
Walsall.
18th August, 1960.

BOROUGH OF LUTON.
HOUSING DEPARTMENT.

TENDERS are invited for STRIPPING, FELTING and BATTENING, and RETILING with new TILES, and sundry WORKS to CHIMNEY STACKS, to 24 HOUSES in close proximity.

Specifications, General Conditions, Form of Tender, etc., are obtainable from the Director of Housing, Town Hall, Luton, on the payment of a deposit of Two Guineas, returnable on receipt of a bona-fide Tender, and must be returned, in the plain envelope addressed to TOWN CLERK, Town Hall, Luton, by Noon on TUESDAY, 6th September, 1960. The Corporation do not bind themselves to accept the lowest or any Tender.

N. C. SIMMONS,
Clerk of the Council.

Council Offices,
Fort Road,
Newhaven.
17th August, 1960.

MARKET HARBOUROUGH RURAL
DISTRICT COUNCIL.GREAT EASTON, BRINCHURST AND
DRAYTON SEWERAGE.

TENDERS are invited from experienced contractors for the LAYING of SEWERS at GREAT EASTON, BRINCHURST and DRAYTON, and the CONSTRUCTION of a SEWAGE DISPOSAL WORKS at GREAT EASTON.

The work will include the Laying of about 2,250yds. of 9in. and 6in. dia. Sewers, together with Manholes and House Connections, the Laying of about 1,300yds. of 4in. dia. Pumping Main, the Construction of a Sewage Disposal Works, Two Pumping Stations, Drawings may be seen at the Office of the Council's Consulting Engineers, Messrs. PICK, EVERARD, KEAY AND GIMSON, 6 Millstone Lane, Leicester, from whom a Specification and Bill of Quantities may be obtained on payment of a deposit of Five Guineas, which will be refundable on receipt of a bona-fide Tender and the return to the Engineers of documents supplied.

Tenders, on the loose form and in the envelope provided, are to be delivered to the undersigned not later than 10 o'clock in the forenoon of FRIDAY, the 30th September, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

T. R. SMITH,
Clerk of the Council.

Council Offices,
42 High Street,
Market Harborough, Leics.

CONTRACTS

CONTRACTS

CONTRACTS

LANCASHIRE COUNTY COUNCIL.

TENDERS are to be invited from contractors for the DEVELOPMENT of PLAYING FIELDS, CONSTRUCTION of FIELD FENCES, and ERECTION of FENCING, etc., at the FOLLOWING:

Roxton Our Lady's R.C. Secondary School.

Horwich College of Further Education.

Applications for documents to tender must be received by the COUNTY ARCHITECT, P.O. Box 26, County Hall, Preston, not later than MONDAY, 5th September, 1960, quoting Ref. A/CJ.

BOROUGH OF PORT TALBOT.
TRADITIONAL HOUSING PROGRAMME.

The CORPORATION invites TENDERS for the ERECTION of 44 DWELLINGS at HARRY SITE, SANDFIELDS, Port Talbot.

Plans and Specification can be obtained from Mr. G. V. GRIFITHS, A.M.I.C.E., Borough Engineer, Municipal Buildings, Port Talbot, on payment of a deposit of £2 2s., which will be returned on receipt of a bona-fide Tender, not subsequently withdrawn.

The contractor whose Tender is accepted will be required to enter into a bond of security with the Corporation, or insurance company.

Tenders, sealed and endorsed "44 Dwellings at Harry Site," to be forwarded to the undersigned not later than 12 Noon, MONDAY, 19th September, 1960.

The Corporation does not bind itself to accept the lowest or any Tender.

W. KING DAVIES,
Town Clerk.

Municipal Buildings,
Port Talbot.
16th August, 1960.

BOROUGH OF ALDERSHOT.
NORTH TOWN REDEVELOPMENT SCHEME.
FINAL MAKING-UP CONTRACT AT
DENMARK STREET.

TENDERS are invited for the CONSTRUCTION of FOOTWAYS and CARRIAGeways, together with ancillary drainage, at Denmark Street.

Tender documents may be obtained from the Borough Engineer and Surveyor, Town Hall, Aldershot (in whose Office, Drawings and General Conditions of Contract may be inspected), on payment of a deposit of £2 2s., which will be refunded on receipt of a bona-fide Tender.

Tenders, sealed in the endorsed envelope provided, must reach my Office not later than 10 a.m. on MONDAY, 26th September, 1960.

H. B. SALES,
Town Clerk.

Town Hall,
Aldershot.
19th August, 1960.

BOROUGH OF SURBITON.
CYCLE TRAINING SET-FULLERS WAY SCHOOL.

TENDERS are invited for CYCLE TRAINING WORKS, comprising S.W. Seven Connections and Construction of Concrete Carrigeways in accordance with the Plans, Specification, Bills of Quantities and General Conditions of Contract, which may be obtained from the Office of MR. R. THIRLWAY, M.I.Mun.E., M.I.Struct.E., Borough Engineer and Surveyor, Council Offices, Sevenoaks Road, Surbiton.

Tenders, in the form provided enclosed in the endorsed envelope provided, and bearing no name or mark indicating the sender, must be delivered to the undersigned and received by him not later than 5 p.m. FRIDAY, 23rd September, 1960.

The Corporation do not bind themselves to accept the lowest or any Tender.

JOHN H. A. CRUNDELL,
Town Clerk.

BOROUGH OF SUTTON COLDFIELD.
MAKING-UP OF BROOMIE CLOSE.

TENDERS are invited for SURFACE WATER DRAINAGE, ROAD FOUNDATION, KERBING, PAVING and SURFACING of Broome Close. The length of the works is approx. 190 lin. yd.

Contract documents may be obtained in the Office of the Engineer and Surveyor, Sutton Coldfield, and Contract of Contract and Drawings inspected at the Borough Surveyor's Office during normal office hours.

A deposit of £2 is required in respect of the documents, this being returnable on receipt of a bona-fide Tender, not subsequently withdrawn.

Tenders should be returned to the undersigned in plain sealed envelopes endorsed "Making-up of Broome Close," not later than Noon, THURSDAY, 8th September, 1960.

J. P. HOLDEN,
Town Clerk.

Council House,
Sutton Coldfield.

URBAN DISTRICT COUNCIL OF
CHESHUNT.
PARK ATTENDANT'S HOUSE AT WALTHAM CROSS
PLAYING FIELD.

CONTRACT NO. 370.

LUMP-SUM TENDERS are invited for the ERECTION of a small DETACHED HOUSE and all ancillary works, including the Demolition of part-under-ground Shelters.

Plans and Specification (without quantities) can be obtained from the Engineer and Surveyor at the Manor House, Deposit £2.

Tenders to be delivered to the undersigned by Noon on MONDAY, 12th September, 1960.

G. S. NEWNHAM,
Clerk of the Council.

Manor House,
Waltham Cross, Herts.

URBAN DISTRICT COUNCIL OF
CHESHUNT.TURNERS HILL COLLEGE ROAD (THE TRIANGLE)
PROPOSED TRAFFIC ROUNDABOUT.

CONTRACT NO. 378.

TENDERS are invited for the CONSTRUCTION of a TRAFFIC ROUNDABOUT and ancillary works, together with the PROVISION and ERECTION of Group "A" LIGHTING.

Plans and Quantities, Specification and Form of Tender may be obtained from, and Plans and Conditions of Contract inspected at, the Office of the Engineer and Surveyor, Manor House, Cheshunt, on payment of a deposit of £2.

Tenders shall be returned, in the envelope provided, to the undersigned not later than 12 Noon on FRIDAY, 16th September, 1960.

G. S. NEWNHAM,
Clerk of the Council.

Manor House,
Waltham Cross, Herts.

CONTRACTS**COUNTY BOROUGH OF HUDDERSFIELD.****INNER RING ROAD.****SUPPLY OF BOLLARDS AND ADVANCE DIRECTION SIGNS.**

TENDERS are invited for the SUPPLY of the FOLLOWING ITEMS, to be delivered to the Corporation Highways Depot, Flint Street:—

- (1) 15 Illuminated Bollards with 24in. x 18in. "Keep Left" Panel.
- (2) 25 Illuminated Bollards with 12in. x 9in. "Keep Left" Panel.
- (3) 17 Illuminated Bollards with 12in. x 9in. Plain Panel.

All illumination to be by fluorescent tubes. Specifications must be supplied with the Tenders and delivered periods stated.

- (4) 14 Advance Direction Signs and Seven small Direction Signs, together with Single Posts suitable for the signs, and Fittings.

All items to be to B.S.S. 873-1959, and signs to be in accordance with Ministry of Transport Traffic Signs Regulations, 1957.

Tender Forms, Schedules and details may be obtained on application to A. L. PERCY, Esq., M.I.C.E., Borough Engineer and Surveyor, High Street Buildings, Huddersfield.

Tenders, in the envelope provided, to be delivered to the undersigned not later than 10 a.m. on MONDAY, the 19th September 1960.

The Corporation do not bind themselves to accept the lowest or any Tender.

HARRY BANN.
Town Clerk.

Town Hall,
Huddersfield.
August, 1960.

BOROUGH OF POOLE.**PRIVATE STREET WORKS AND PUBLIC SEWERAGE.****COY POND ROAD (PART).****THWAITE ROAD.****HALEOCK ROAD.**

TENDERS are invited for the MAKING-UP of THESE STREETS (total length 1/2-mile) and WORKS of SURFACE WATER DRAINAGE. Contract documents from the Borough Engineer on payment of Two Guineas deposit. Tenders to me by 19th SEPTEMBER, 1960.

J. G. HILLIER.
Town Clerk.

BOROUGH OF DARTFORD.**TENDERS FOR EXTRACTION OF SAND AND GRAVEL AT TEMPLE HILL.**

Further particulars, with Plans and Form of Tender, are obtainable from the Town Clerk, Council Offices, High Street Dartford, on payment of a deposit of £5 5s., which will be refunded on receipt of a bona-fide Tender, not subsequently withdrawn. Tenders on the form provided, must be delivered to the Town Clerk at the above-mentioned address, in envelopes endorsed "Sand and Gravel," and bearing no other name or distinguishing mark, not later than MONDAY, 21st November, 1960.

THOMAS ARMSTRONG.
Town Clerk.

BOROUGH OF DROITWICH.**POPLARS MEADOW.**

TENDERS are invited for the CONSTRUCTION of a PLAYING FIELD AT POPLARS MEADOW in OMBERSLEY ROAD, Droitwich. The works consist of Land Drainage, Turfing Cricket Square, Levelling and Seeding.

Forms of Tender, Specification and Drawings can be obtained from the Borough Engineer and Surveyor, Town Hall, Droitwich, where the Conditions of Contract may be inspected during usual office hours.

Applications should be accompanied by a deposit of Two Guineas, which will be refunded upon the receipt of a bona-fide Tender and the return of all documents.

Tenders endorsed "Poplars Meadow," are to be submitted in a plain sealed envelope to the undersigned not later than 10 a.m. on MONDAY, 12th September, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

S. G. FOSTER.
Town Clerk.

Town Hall,
Droitwich.
22nd August, 1960.

BOROUGH OF LEYTON.**REMOVAL OF REDUNDANT STREET LIGHTING COLUMNS.**

TENDERS are invited for the REMOVAL and DISPOSAL of REDUNDANT STREET LIGHTING COLUMNS.

The General Conditions of Contract may be inspected, and the Specification and Form of Tender obtained from the Borough Engineer, Town Hall, Leyton, E.10, on payment of a deposit of £2 2s., which will be refunded on the receipt of a bona-fide Tender.

Tenders, in the official envelope provided, must be returned by Noon on 7th SEPTEMBER, 1960.

The Council do not bind themselves to accept the lowest Tender.

D. J. OSBORNE.
Town Clerk.

Town Hall,
Leyton, E.10.

CITY OF MANCHESTER.

TENDERS are invited for the SUPPLY of One 4-ton MASTIC ASPHALT MIXER, chassis-mounted, on four pneumatic-tired wheels.

Tender Forms returnable by 6th SEPTEMBER, 1960, from CITY SURVEYOR, Town Hall, Manchester, 2.

CITY OF WAKEFIELD.**GRADING, LEVELLING AND SEEDING OF OPEN SPACES AND PLAYING FIELDS.**

TENDERS are invited from specialist contractors for the GRADING, LEVELLING and SEEDING of VARIOUS OPEN SPACES and PLAYING FIELDS in the City, Wakefield.

Four sites are to be dealt with, the largest being 4 acres in extent.

Contractors wishing to tender should apply to the City Engineer, Town Hall, Wakefield, for a copy of the relevant documents not later than 31st AUGUST, 1960.

W. S. DES FORGES.
Town Clerk.

CONTRACTS**BOROUGH OF TIPTON.****SUMMERHILL BRIDGE DEMOLITION AND REGRADING OF APPROACHES—UPPER CHURCH LANE.**

TENDERS are invited for the DEMOLITION of a 28ft. span CAST-IRON GIRDER BRIDGE with Brick Arch supports spanning a disused canal, and the EXCAVATING and REGRADING of the EXISTING ROADWAY, and the CONSTRUCTION of a NEW CARRIAGeway, together with Footways and ancillary works.

Contractors desirous of tendering are requested to send their names and addresses to the Borough Engineer and Surveyor, Municipal Buildings, Sedgley Road West, Tipton accompanied by a deposit of Two Guineas, which will be refunded on receipt of a bona-fide Tender. Cheques should be made payable to Tipton Corporation.

In Form of Tender, Specification and Bill of Quantities will be forwarded, and the Drawings and General Conditions may be inspected at the above Office.

KENNETH W. MADIN,
Town Clerk.

Municipal Buildings,
Sedgley Road West,
Tipton.

BOROUGH OF BARNES.**(i) ERECTION OF CHAIN LINK FENCING AT WESTFIELDS, S.W.13.****(ii) ERECTION OF CLOSE BOARDED FENCING AT WESTFIELDS, S.W.13.**

TENDERS are invited from specialist firms for the SUPPLY and ERECTION of approx. 100yd. of 6ft. CHAIN LINK FENCING and approx. 60yd. of CLOSE BOARDED FENCING. Separate Tenders for either (i) or (ii) will be accepted.

Specification and Bill of Quantities may be obtained from the undersigned, to whom they should be returned, in the envelope provided, not later than First Post, FRIDAY, 16th September, 1960.

W. R. SHEPHERD, A.M.I.C.E., F.R.I.C.S.,
Borough Engineer and Surveyor.

Municipal Offices,
Sheen Lane, S.W.14.
19th August, 1960.

EAST GRINSTEAD URBAN DISTRICT COUNCIL.**GODSTONE RURAL DISTRICT COUNCIL.**

The above AUTHORITIES invite TENDERS from experienced contractors for ONE or MORE of the FOLLOWING CONTRACTS, which are to proceed concurrently:—

CONTRACT NO. 1.—With the Godstone Rural District Council, for the Construction of a Sewage Disposal Works near Felbridge (to serve a population of about 6,000), comprising Grid Channels, Circular Settlement Tanks, Floating Filter Beds, Pumping Station, also Sludge Digestion Tanks, Sand Filters and a Pumping Station, all mainly in Reinforced Concrete, together with all necessary Interconnecting Pipework and Chambers, Roads, Areas, Footpaths, Cuttings and Embankments, and other appurtenant works.

CONTRACT NO. 2.—With the same Authority, for the Construction of 500 lin. yd. of 21in. dia. Outfall Sewer, 1,900 lin. yd. of 15in., 15in. and 12in. Main Sewer and 3,100 lin. yd. of 6in. and 9in. dia. Branch Sewers throughout the village of Felbridge, complete with Manholes, Flushing Chambers, Vent Columns and appurtenant works.

CONTRACT NO. 3.—With the East Grinstead Urban District Council, for the Construction of 500 lin. yd. of 15in. and 18in. Main Sewer from the existing North End Pumping Station to the District Boundary at Felbridge, and some 1,500 lin. yd. of 6in. dia. Branch Sewers in North End, complete with all necessary Manholes, Flushing Chambers, Vent Columns and a Flume Chamber and Receiver, and other appurtenant works.

Documents may be obtained from the Council's Consulting Engineers, Messrs. LEMON AND BLIZARD, 59 Tufton Street, Westminster, S.W.1, on payment by cheque of a deposit of Five Guineas in respect of each contract. Deposits for each contract will be refunded on receipt of a bona-fide Tender for that contract and the return of all documents. Deposit cheques for Contracts No. 1 and No. 2 should be made payable to the Godstone Rural District Council, and to the East Grinstead Urban District Council for Contract No. 3. Drawings may be inspected by appointment at the Offices of the Consulting Engineers at the Offices of the appropriate Council.

Tenders, in plain sealed envelopes, endorsed as directed, must reach the Offices of the appropriate Authority by Noon on MONDAY, 26th September, 1960.

The Councils do not bind themselves to accept the lowest or any Tender.

M. HAWORTH,
Clerk of the Godstone R.D.C.

H. C. JONES,
Clerk of the East Grinstead U.D.C.

Council Offices,
Oxted, Surrey.
East Grinstead,
Sussex.

PETERSFIELD STANDING JOINT COMMITTEE OF ROTARY, ROUND TABLE AND CHAMBER OF COMMERCE.**PROPOSED PETERSFIELD AND DISTRICT SWIMMING POOL.**

TENDERS are invited for the CONSTRUCTION of an OPEN-AIR SWIMMING POOL, and ancillary works.

The documents can be obtained from J. THOMAS, A.M.I.C.E., Engineer and Surveyor, Petersfield Urban District Council, Town Hall, Petersfield, Hants, and are to be returned to me, in sealed envelopes endorsed "Swimming Pool," not later than 22nd SEPTEMBER, 1960.

The Committee do not bind themselves to accept the lowest or any Tender, and reserve right to offer sections of the work to different tenderers.

A. RAY,
Hon. Secretary,
c/o 11 Swan Street,
Petersfield,
Hants.

For Contracts received too late for classification see page 901

APPOINTMENTS VACANT**NORFOLK COUNTY COUNCIL.****HIGHWAYS DEPARTMENT.**

APPLICATIONS are invited for the UNDERMENTIONED APPOINTMENT:

First Assistant Divisional Surveyor, in Division No. 2 (Headquarters at King's Lynn). Salary Scale—Special (£785-£1,070 p.a.). Starting point on scale according to classification and experience.

Preference will be given to candidates holding Associate Membership of the Institutions of Civil Engineers, Municipal Engineers or Highway Engineers. Experience in a Divisional Surveyor's Office of a County Council is essential, and experience in other departments of highway engineering work, in addition, would be an advantage.

A motor car is essential, and the appointed officer will be paid an essential user's car allowance in accordance with the recommendations of the National Joint Council, as adopted and applied from time to time by the County Council. A loan is available if purchase is required.

The appointment will be on the permanent establishment of the Department, terminable by one month's notice on either side. The Provisions of the Local Government (Remuneration) Acts, 1937 to 1953, apply. The successful candidate will be required to pass a medical examination.

Grant towards removal expenses.

The National Joint Service Conditions apply in general.

Further particulars and Application Forms obtainable from COUNTY SURVEYOR, County Offices, Norfolk County Council, Thorpe Road, Norwich, Norfolk, NOR 47A.

Latest date for completed Application Forms: 9th SEPTEMBER, 1960.

COUNTY BOROUGH OF GRIMSBY.**CONSTRUCTION OF INDOOR SWIMMING POOL.****APPOINTMENT OF CLERK OF WORKS.**

The Corporation invites APPLICATIONS from experienced persons for the APPOINTMENT of a TEMPORARY CLERK OF WORKS, required in connection with the construction of a new indoor swimming pool and other maintenance works. The Consulting Engineers are MESSRS. OSCAR FABER AND PARTNERS, London.

The duration of the work will be approximately 18 months, and the applicants must be experienced in carrying out works of important nature, comprising reinforced concrete structural framework and general building work of this type, together with the installation of mechanical and other services.

The salary to be paid is £1,200 per annum.

Applications, together with the names and addresses of two referees, to be forwarded to the undersigned not later than MONDAY, the 5th September, 1960.

J. V. OLDFIELD,
M.Inst.C.E.,
Borough Engineer and Surveyor.

Municipal Offices,
Grimsby Hall Square,
Grimsby.
August, 1960.

BOROUGH OF ENFIELD.**BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.****APPOINTMENT OF JUNIOR ENGINEERING ASSISTANT.**

(Population approx. 110,000; Area 12,400 acres.)

APPLICATIONS are invited for the ABOVE POSITION, in accordance with Grade A.P.T. IV of the National Scheme of Conditions of Service (£610-£765 per annum, with the addition of London Weighting of £15-£40 per annum, according to age). Commencing salary will be fixed at a point within the scale commensurate with the experience and qualifications.

Applicants should have completed their professional training under the scheme for the training of municipal or civil engineers. Opportunity will be afforded to gain experience in all phases of municipal engineering.

Salary: £610 per annum.

Application forms obtainable from MR. H. D. PEAKE, M.Sc.(Eng.), M.I.C.E., Borough Engineer and Surveyor, 7 Little Park Gardens, Enfield, Middx., must be delivered to the undersigned not later than MONDAY, 5th September, 1960.

CYRIL E. C. R. PLATTEN, LL.B.,
Town Clerk.

Public Offices,
Enfield,
Middx.

CITY OF NOTTINGHAM.**CITY ENGINEER'S DEPARTMENT.****ASSISTANT QUANTITY SURVEYOR,
GRADE A.P.T. IV.**

£1,065-£1,220 PER ANNUM.

APPLICATIONS are invited for the ABOVE POSITION.

Applicants should be associates of the Royal Institution of Chartered Surveyors or have extensive professional experience.

The person appointed will be required to be responsible for all the quantity surveying work on individual major contracts.

Commencing salary will depend on experience.

Assistance with housing may be given.

Applications are to be made on forms to be obtained from R. M. FINCH, ESQ., O.B.E., M.I.C.E., City Engineer and Surveyor, Guildhall, Nottingham, in which they should be returned not later than 31st AUGUST, 1960.

ASHTON-IN-MAKERFIELD URBAN DISTRICT COUNCIL.**NEW SEWAGE DISPOSAL WORKS—EDGE GREEN.****APPOINTMENT OF RESIDENT ENGINEER.**

APPLICATIONS are invited for the POST of RESIDENT ENGINEER to supervise on behalf of the Council and under the direction of the Consulting Engineers, MESSRS. WARD, ASHCROFT AND PARKMAN, the construction of concrete and cast-iron sewers and rising mains, reinforced concrete water retaining structures, pumping stations and ancillary works.

The salary will be £1,250 per annum, plus £250 per annum subsistence and travelling allowance.

The duration of the appointment is expected to be approximately two years.

Applications, endorsed "Resident Engineer," stating age, qualifications and full details of previous experience, together with the names and addresses of three referees, should be delivered to the undersigned not later than MONDAY, 17th October, 1960.

FRANK DEAN,
Clerk of the Council.

Town Hall,
Ashton-in-Makerfield.

THE CONTRACT JOURNAL

August 25 1960

APPOINTMENTS VACANT
CITY OF WAKEFIELD.
CITY ENGINEER'S DEPARTMENT.

APPLICATIONS are invited for the FOLLOWING SUPERANNUABLE APPOINTMENTS in the City Engineer's Department:

- (a) Senior Assistant Engineer—Special Grade (£785 x £40/3) £1,450 x £40/3 (£1,070 p.a.). Applicants must have had experience in Municipal Engineering and must be A.M.I.C.E. or A.M.I.Mun.E., by examination. The commencing salary will depend on qualifications and experience.
- (b) Junior Engineering Assistants (Two Vacancies)—Grade A.P.T. I (£610 x £30/4) £355 x £765 p.a.). Applicants should have completed a recognised period of training in a Municipal Engineer's Office, and those successful will be allowed one day off per week if necessary for following a recognised course of study.

Housing accommodation will be provided if necessary in respect of appointment (a). Applications, stating age, qualifications and experience, together with the names of two referees, to be sent to the CITY ENGINEER, Town Hall, Wakefield, by the 9th SEPTEMBER, 1960.

CITY OF BIRMINGHAM.
PUBLIC WORKS DEPARTMENT.

SEWERS AND RIVERS SECTION.

VACANCIES for ENGINEERS—Special Scale (£785-£1,070 p.a.).

Applicants should be qualified members of the Institution of Civil Engineers and/or Municipal Engineers, or hold equivalent qualifications.

The duties include the preparation of main drainage contracts, particularly in connection with large-scale roadworks.

The appointments are permanent, superannuable, and subject to a medical examination.

Applications, endorsed "Engineer—Sewers and Rivers Section," stating age, qualifications and experience, together with the names of two referees, should be sent to the undersigned by the 10th SEPTEMBER, 1960.

Canvassing disqualifies.

HERBERT J. MANZONI,
 City Engineer and Surveyor.

Civic Centre,
 Birmingham, 1.

CITY OF PLYMOUTH.
WATER DEPARTMENT.

**APPOINTMENT OF
 SENIOR CIVIL ENGINEERING ASSISTANT.**

GRADE A.P.T. V (£1,220-£1,375 PER ANNUM).

APPLICATIONS are invited from CHARTERED CIVIL ENGINEERS experienced in waterworks construction and design.

Experience in reinforced concrete construction and the preparation of Contract documents is necessary.

The appointment is subject to the provision of the Local Government Superannuation Scheme and to the successful candidate obtaining a medical examination.

Applications, stating age, qualifications and experience, and the name of three persons to whom reference may be made, should be delivered to the 12th SEPTEMBER, 1960, undersigned not later than 12th SEPTEMBER, 1960.

N. G. ELLIOT,
 M.Sc., M.I.C.E.,
 City Water Engineer.

22 Portland Square,
 Plymouth.

BRANDON AND BYSHOTTLIES URBAN DISTRICT COUNCIL.

APPOINTMENT OF RESIDENT ENGINEER.

DEERNESS MAIN SEWERAGE CONTRACT.

APPLICATIONS are invited from experienced and qualified persons for APPOINTMENT as RESIDENT ENGINEER to supervise the construction of the above work under the direction of the Council's Consulting Engineers, MESSRS. WATERHOUSE AND ROUNTHWAITE, Newcastle upon Tyne. The approximate cost of the scheme is £220,000, and the time for completion two years.

The works comprise approximately Five Miles of Trunk Sewer, with some in tunnel, and a complete Sewage Disposal Works.

The salary will be £1,100 per annum, together with a subsistence allowance of £100 per annum, and travelling expenses of £100 per annum.

The appointment will be subject to the Council's Conditions of Service, to a medical examination for superannuation purposes if the successful applicant is already a contributory employee, and to one month's notice.

Applications, giving full particulars of experience, age, qualifications, etc., together with the names of the engineers or previous employers to whom reference can be made, should be sent to the undersigned on or before SATURDAY, 3rd September, 1960.

(Signed) A. A. LUXMOORE,
 Clerk to the Council.

Council Offices,
 Brandon, Lancs.
 Browney Colliery,
 Durham.

16th August, 1960.

EAST GRINSTEAD URBAN DISTRICT COUNCIL.

SURVEYOR'S DEPARTMENT.

APPLICATIONS are invited for the APPOINTMENTS HEREUNDER:

- (a) Chief Clerk within the N.J.C. Clerical Division, Grade III (£765-£855 p.a.).
- (b) Senior Assistant Engineer within N.J.C. A.P.T. Grade II (£765-£880 p.a.).

Commencing salary according to qualifications and/or experience of the person appointed.

Housing accommodation available if necessary. Applications for appointment (a) must be experienced in the duties of the appointment and able to accept administrative responsibility, and for (b) must be competent to prepare drawings, specifications and bills of quantities for road and drainage works, including setting-out, site supervision and measuring-up of contract works.

Application forms obtainable from MR. B. J. CORNELIUS, F.R.I.S.S., Surveyor to the Council, at the undermentioned address, and returnable, endorsed

(a) "Chief Clerk," (b) "Senior Assistant Engineer," to the undersigned by not later than Noon on

WEDNESDAY, 14th September, 1960.

H. C. JONES,
 Clerk of the Council.

Council Offices,
 East Court,
 East Grinstead,
 Sussex.

16th August, 1960.

16th August, 196

APPOINTMENTS VACANT

GENERAL FOREMAN (Overseas).—General Foreman wanted for overseas contracts. Applicants should have proven ability for supervising and organising sizeable jobs and have experience of bulk excavation, pile-driving and road construction.—Write Box V.2473, "The Contract Journal."

J.C.B. OPERATOR REQUIRED. Must be experienced and prepared to travel. Subsistence or travelling time and fares. Permanent position.—Apply STAVERTON CONTRACTORS, LTD., Racecourse, Totnes (225).

BUILDING MANAGER REQUIRED in South Wales, preferably carpenter by trade, with necessary intelligence, education, initiative and drive to start a branch office in the Abertillery area. Starting salary £1,000 p.a. plus bonus.—Apply in writing, giving full particulars, to Contracts Director, WOOLAWAY BUNGALOWS (TAUNTON), LTD., 26 Upper High Street, Taunton, Somerset.

SURFACE MAINTENANCE SERVICES, LTD.

REQUIRE the following senior staff to work from their new offices and depot at Corfe Mullen, near Bournemouth:—

CHIEF BUYER

To take charge of the buying department dealing with all the group's civil engineering contracts.

PLANT HIRE MANAGER

To control the group's plant hire company, to arrange the internal hiring of plant and equipment for all contracts to run the plant fleet engaged on outside hires and to negotiate all plant purchases and hiring agreements.

SENIOR COST CLERK

To take charge of contract costing for all the group's civil engineering contracts and to supervise the workshop costing section.

Applicants must have had at least five years' previous experience in a senior capacity and be in a position to produce first-class references as to their ability.

The appointments are permanent, with excellent prospects for advancement. Applications stating age, experience, present salary and enclosing copies of references, in confidence, to:

Personnel Manager,

SURFACE MAINTENANCE SERVICES, LTD., 124 Old Christchurch Road, Bournemouth.

SENIOR AND JUNIOR SITE ENGINEERS. Vacancies exist within a well-known and rapidly expanding firm of civil engineering contractors for Senior and Junior Engineers for site duties on contracts in East Anglia and the West Country. Applicants should have a good general civil engineering background and primarily be experienced in constructing reinforced steel in open-cut headings and tunnel. Permanent progressive positions for men ambitious to make a career within the industry. Pension and life assurance scheme in operation.—Written applications, in strict confidence, stating age, experience, and salary required, to Box V.2497, "The Contract Journal."

M. J. GLEESON (CONTRACTORS), LTD. Applications are invited for the following positions. Good conditions and prospects apply, and these will be staff appointments. CIVIL ENGINEERING ASSISTANT required for head office planning department. Minimum two years' site experience and ability to draw and design formwork required. QUANTITY SURVEYORS, fully experienced, for contracts in North-West and South-West areas. SITE ENGINEERS, for setting-out duties on large contracts in Midlands and South-East areas.—Apply with full details of age, qualifications and salary required, to M. J. Gleeson (Contractors), Ltd., C.E. Dept., Hardwick House, London Road, North Cheam, Surrey.

STEIN ATKINSON VICKERS HYDRAULICS, LTD. wish to appoint a TECHNICAL ASSISTANT in their expanding mobile sales division at their head office in Knightsbridge. The duties will include the preparation of schematic hydraulic circuit diagrams and proposals, and the carrying-out of a sales office routine. Knowledge of hydraulics as applied to earthmoving or mechanical handling machinery desirable, and a period of training at the company's main works in Surrey will be arranged.—Write, stating age and details of past experience, to the Sales Manager, Stein Atkinson Vickers Hydraulics, Ltd., 197 Knightsbridge, London, S.W.7.

CIVIL ENGINEER REQUIRED by firm engaged on motorway works, large-diameter sewers, pipelines and other works in Midlands and South of England. Applicant should have some previous site experience and capable of setting out and supervising works. Progressive appointment for keen and enthusiastic applicant.—Apply, giving details of age, experience, salary required, and when available, to SMITHS CONTRACTORS (CHELTENHAM), LTD., Southampton Court, 98 Prestbury Road, Cheltenham. Tel.: Cheltenham 56473.

AGENTS

Several vacancies now occur, due to rapid expansion, for experienced Building Agents able to control the construction of precast and in-situ reinforced concrete structures up to £100,000. Top salaries will be paid to good men, and there are excellent prospects for promotion to Contract Supervisor.—Details of age and experience should be sent to:

Contracts Manager,

SURFACE MAINTENANCE SERVICES, LTD., Maxted Close, Hemel Hempstead, Herts.

DEREK CROUCH (CONTRACTORS), LTD., Station Road, Birtley, Co. Durham. REQUIRE the following staff for their building and civil engineering departments: (a) MEASURING SURVEYOR, with wide experience of site measuring, interim and final accounts, etc.; (b) BONUS COST SURVEYOR, capable of taking full control of all bonusing and costing; (c) BUYING PLANNING ASSISTANT, preferably surveyor-trained with experience of taking-off, scheduling and buying materials, and some planning and programming experience. All posts are permanent and with excellent prospects.—Reply in confidence, stating experience, age, salary required, and post applied for, to Area Manager, Derek Crouch (Contractors), Ltd., Station Road, Birtley, Co. Durham.

JUNIOR CIVIL ENGINEER for site work in the Merseyside area. Enthusiasm, drive and initiative more important than qualifications.—Write in first instance, with full details, in strict confidence, to D. S. O'BRIEN AND SONS, LTD., Olive Mount, Birkenhead.

ENGINEER REQUIRED for setting-out, taking site measurements, and submitting accounts, on civil engineering contracts.—Apply, giving full particulars of experience and salary required, to BORDER ENGINEERING CONTRACTORS, LTD., 125 Queen Street, Whitehaven, Cumberland.

APPOINTMENTS VACANT

PLANT MANAGER for ready-mixed concrete. Suitable experienced man is required to take full responsibility for production and general management of a large ready-mixed plant and transport fleet in the North of England. Salary £900-£1,100 and company car provided.—Write Box V.2581, "The Contract Journal."

BONUS ENGINEER

Applications are invited for the above position from Work Study Engineers, surveyors or other applicants with experience of operating bonus schemes in the building and civil engineering industry. The successful candidate will be responsible for developing a new bonus scheme for various sites throughout the country. Applications should be addressed to:

Contracts Manager,

SURFACE MAINTENANCE SERVICES, LTD., Maxted Close, Hemel Hempstead, Herts.

FOREMEN, GANGERS, TRADESMEN and LABOURERS REQUIRED on several road and sewer contracts in Rugby and Daventry areas.—Apply GALLIFORD AND SONS, LTD., Civil Engineering Contractors, Site Office, Longrood Road, Rugby, or Head Office, Wolvley, near Hinckley, Leicestershire. Tel.: Wolvley 333.

CIVIL ENGINEER REQUIRED for civil engineering contracts in reinforced concrete bridge works and sewage disposal works. Successful applicant would be required to work under the control of a civil engineering agent, and previous experience in this type of work is essential. Excellent prospects are offered in a well-established and expanding organisation. We have a progressive staff policy, operating superannuation, profit-sharing schemes, and assistance in car purchase.—For further details and application form, apply in confidence, giving brief particulars, to A. C. Bryant, Managing Director, C. BRYANT AND SON, LTD., Small Heath, Birmingham, 10.

MANAGER REQUIRED for Midlands Joinery works attached to English and foreign sawmills. Work is mainly specialised consisting of special house joinery, high-class oak, teak, etc., special machine cases of large dimensions, fencing, gates, interwoven panels, portable buildings, etc. Must be able to cost and take complete control of department. Must be man of ambition and prepared to go ahead and expand.—Apply with full particulars, copy references, etc., to W.M. WENNS AND SONS (TIMBER MERCHANTS), LTD., 128 Railway Terrace, Rugby.

EXPERIENCED MANAGER to run complete softwood department. Must be of good disposition, hard-working and ambitious.—Write, with copy references, salary required, etc., to Box V.2505, "The Contract Journal."

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REQUIRED by piling specialists. Should be prepared to travel in British Isles. Car provided. Superannuation scheme. Good prospects for right man. Apply:

JOHN GILL CONTRACTORS, LTD., 123 Pall Mall, London, S.W.1.

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SECTION FOREMAN REQUIRED immediately for bridge contract in Worcester.—Apply on site, or write to General Foreman, LOMOUNT CONSTRUCTION, LTD., Site Office, adjoining The Rectory, Primsland, near Hadzor, Droitwich. Tel.: Droitwich 2004.

AGENTS, GENERAL FOREMAN, FOREMAN CARPENTERS, GANGERS. If you are top of your grade in the above positions and have previously and recently carried out large building contracts, we have a vacancy for you on one of several large, interesting contracts about to start in the Midlands area.—We invite your application and you should give full particulars and what terms you want to WILSON LOVATT AND SONS, LTD., Clarence Street, Wolverhampton.

BUILDING ESTIMATOR. A permanent position with an old-established building and civil engineering contractor, an expanding business in the Midlands area, covering all types of construction. Invites applications from senior surveyor-trained Estimators.—Applications should state training, experience, age, and terms required, to WILSON LOVATT AND SONS, LTD., Clarence Street, Wolverhampton.

CARPENTERS REQUIRED immediately for bridge contract in Worcester. Production bonus and subsistence.—Apply on site, or write to General Foreman, LOMOUNT CONSTRUCTION, LTD., Site Office, adjoining The Rectory, Primsland, near Hadzor, Droitwich. Tel.: Droitwich 2004.

ASSISTANT ENGINEERS REQUIRED by expanding civil engineering contractor in the North. Previous experience of piling work preferable.—Reply, stating age, experience, qualifications and salary required, to Box V.2535, "The Contract Journal."

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Invite applications from SENIOR LAND AND ENGINEERING SURVEYORS to fill permanent posts at home and overseas in near future. Excellent prospects; hard work; long hours; good remuneration.

PRECISE SURVEYS, LIMITED, East Stour, Dorset.

FIRST-CLASS PILING FOREMAN REQUIRED for bridge contract in Sussex. Accustomed to handling 10-ton derricks and heavy piling. Good pay and bonus.—LOMOUNT CONSTRUCTION, LTD., 40 Piccadilly, London, W.1.

MASSEY-FERGUSON industrial distributors (South-West location) REQUIRE a SALES REPRESENTATIVE with a contracting and building trades background to expand sales of industrial tractors, digger compressors, etc.—Please write full details in confidence to Box V.2543, "The Contract Journal."

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YOUNG QUANTITY SURVEYOR REQUIRED by established and growing company of sportsfield and civil engineering contractors for preparation of interim certificates and final bills.—Apply to E. DOE AND SONS (CONTRACTS), LTD., Fyfield, Essex. Telephone: Fyfield 238.

MANCHESTER firm of public works contractors REQUIRE an experienced SITE ENGINEER for roads and sewer contracts in the Manchester area. Good salary and a car provided to suitable man. Reply, stating details of experience, and when available to THE NORTH WESTERN CONTRACTING CO., Park Avenue, Longsight, Manchester, 12.

AGENT REQUIRED for large sewage disposal contractor in Huddersfield. A man with experience have had a wide experience in reinforced concrete and deep excavation. Contributory pension scheme after approved service.—Write, giving age, qualifications, experience and salary required, to the General Manager, HENRY OSMAN AND CO., LTD., Winchester Road, Southgate, London.

SITE ENGINEER (experienced) REQUIRED, capable of setting out for roads, sewers on housing sites. Knowledge of traverse surveys desirable. Permanent and pensionable position to suitable applicant.—Apply in writing, giving full particulars of experience, qualifications, also age and salary required, to Building Manager, M. J. GLEESON (CONTRACTORS), LTD., Haredon House, London Road, North Cheam, Surrey.

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REQUIRED for bridges contract near Grantham. Good knowledge of surveying, experience in setting out, and knowledge of standard methods of measurement important. There is an additional vacancy on a contract near Stevenage.—Apply in confidence, quoting Ref. SC.85, to:

Contract Labour Department,
SIMON-CARVES, LIMITED,
Cheadle Heath, Stockport, Cheshire.

MANUFACTURERS OF CABINET FURNITURE extending their activities into contract field. They have an interesting position for a man of high calibre who is already in contact with executives of building contractors, firms of architects, local authorities, hotel management committees and office furnishing contractors.—Write for interview to Box V.2508, "The Contract Journal."

CIVIL ENGINEER REQUIRED by International Company, initially for sewerage scheme contract in County Durham. This is a permanent staff appointment offered to young engineer wishing to gain experience in the sewage disposal field.—Apply in writing to THYSSEN, Ref. C.G.P., Westleigh House, 42 Coombe Road, New Malden, Surrey, or telephone Malden 7741-2.

PLANT MANAGER REQUIRED by the Civil Engineering Department of The Cleveland Bridge and Engineering Co., Ltd., Darlington, Co. Durham. He should be between 30 and 50 years of age, with a long and wide experience of civil engineering plant, and considerable administrative ability.—Applications, giving qualifications and experience, to Chief Civil Engineer.

PLANT HIRE company on South Coast REQUIRE ASSISTANT TO PLANT MANAGER. Applicants must be experienced in plant hire, workshop organisation, and be hard-working.—Apply in writing, giving details of age, past experience, and salary required, to:

Box V.2506, "The Contract Journal."

SENIOR ESTIMATOR REQUIRED by firm of civil engineering contractors. Head office appointment. Reading and Permanent and progressive post, with superannuation scheme in operation.—Write in confidence, stating age, full details of experience, with past employers, and salary required, to Box V.2510, "The Contract Journal."

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QUANTITY SURVEYING STAFF REQUIRED by consulting civil engineers. (a) Assistant Quantity Surveyors, salary £750-£1,000 per annum; (b) Work-up Surveyors, salary £500-£650 per annum. The work involved comprises the preparation of engineering bills of quantities for works of sewerage, sewage disposal and water supply. Some previous experience is essential. Salaries in accordance with experience and experience. Envelope value £1 per annum to be included in writing, stating age, experience and salary required, to D. BALFOUR AND SONS, MM.I.C.E., Consulting Engineers, 131 Victoria Street, Westminster, S.W.1.

QUANTITY SURVEYOR—ASSISTANT QUANTITY SURVEYOR REQUIRED by major firm of building and civil engineering contractors, initially for extensive hydro-electric project near Inverness. This appointment will be permanent with good salary and conditions of entry into superannuation scheme after 12 months' service.—Applications, giving details of training and experience, will be treated in strict confidence and should be addressed to THE MITCHELL CONSTRUCTION CO., LTD., Wharf Works, Peterborough, Northants.

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VACANCIES exist for SITE FITTERS conversant with all types of civil engineering plant, in particular concrete mixing plants. A thorough knowledge of diesel engines essential. Apply to Chief Mechanical Engineer, AMALGAMATED ASPHALTE COMPANIES, LTD., Pear Tree Wharf, Greenwich, S.E.10.

GENERAL FOREMAN (Southern Area) REQUIRED for civil engineering work. Must be experienced in heavy excavation, reinforced concrete, etc., and be a good organiser, able to supervise all sections of the work (tradesmen present). Salary, £1,000 per annum. Experience and present salary to The Personnel Manager, MEARS BROS. (CONTRACTORS), LTD., 154 Sydenham Road, S.E.26.

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MR. F. V. OSBORNE, M.I.C.E., M.I.Struct.E., Civil Engineering Director, 6 Lambeth Road, S.E.1.

CONTRACTORS' MANAGER REQUIRED, Permanent position, Shropshire.—Write Box V.2531, "The Contract Journal."

FIRM of national building contractors REQUIRE part-time reinforced concrete GENERAL FOREMAN for work in northern area. Permanent and pensionable positions for right applicants.—Apply to Box V.2529, "The Contract Journal."

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FORMWORK DRAUGHTSMAN REQUIRED for new office in Welling, Kent. O.N.C. preferred; alternatively, a structural stonework draughtsman, similar experience should apply. Company pension and profit-sharing schemes.—Apply in writing, giving details of experience and education, to Mr. H. R. Gill, KWIKFORM, LTD., East Road, Upper Wickham Lane, Welling, Kent.

JUNIOR ENGINEERS REQUIRED for tunnelling contract in S.E. London area.—Apply, stating age and brief particulars, to KINNEAR, MOODIE AND CO., LTD., 299 Hither Green Lane, London, S.E.13.

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SITE QUANTITY SURVEYORS REQUIRED for building and civil engineering contracts in the North-West and Manchester areas. Local men preferred, but opportunities to travel later. Must have previous experience in site measurement and be able to prepare interim and final certificates under I.B.A. and I.C.E. conditions. There are staff appointments and pensionable. Good salaries in accordance with ability and experience. Allowances paid.—Apply to Contract Labour Department, SIMON-CARVES, LTD., Cheadle Heath, Stockport, Cheshire, quoting Ref. SC.95.

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For Advertisements received too late for classification see page 901

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EXPERIENCED GENT DESIRES CHANGE, road works, etc. seeks, etc. Seeks, if possible, opening to estimate, or any road contracts. Write Box W.2478, "The Contract Journal."

ADMINISTRATION MANAGER, 28 years' experience various large contracts, accounts, buying, all types, insurance, claims, plant and transport, general office and outside supervision, etc. Smart appearance, keen worker.—Write Box W.2507, "The Contract Journal."

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Telephone: Horsham 4805.

TURFES.—Machine-cut, 3ft. x 1ft., close mown,
weed-treated, 6d per 100. Keep trade rates.
We would be pleased to quote for our levelling and
turfing.—E. R. RANCE, LTD., 24 Sheepcot Lane,
Watford. Telephone: Garston 2725.

ROTARY CULTIVATORS available for HIRE or
CONTRACT WORK. Grading, Levelling, Earth-
moving undertaken.—JAMES COOPER, LTD., 28 Ken-
ington Church Street, London, W.8. Western 3412.

EXCAVATION, SITE CLEARING, LEVELLING and
SEEDING, etc. in any part of the U.K.—G. R.
YEOMANS, LTD., Oxford Road, Ryton, Coventry.
Tel.: Tollbar 2376.

CONSULT GREENFIELDS, the Landscape Contractors
for your SEEDING, TURFING or PLANTING
SCHEMES.—Fulshaw Cross, Wilmslow, Cheshire.
Tel.: Wilmslow 4444.

SALES BY TENDER.
SOUTH OF SCOTLAND ELECTRICITY BOARD.

FOR SALE.

COAL CONVEYORS (Five). Portable, Type "A".
Scraper, 14in. wide, powered by 3-h.p. 440-V 3-phase
motor; fitted ironclad wheels.
1—length 23ft. Stacking height 10ft.
1—length 22ft. Stacking height 13ft.
1—length 30ft. Stacking height 14ft.
1—length 28ft. Stacking height 13ft.
1—length 20ft. Stacking height 9ft.
All in working order and reasonably good condition.
At present at Falkirk Generating Station, High
Station Road, Falkirk, and may be inspected on site.
Telephone: Falkirk 4.

Offers should reach THE SECRETARY, South of
Scotland Electricity Board, Inverlar Avenue, Cathcart,
Glasgow, S.4, not later than MONDAY, 5th
September, 1960.

COUNTY BOROUGH OF BOOTLE.
BOROUGH SURVEYOR'S DEPARTMENT.

DISPOSAL OF SURPLUS BUILDERS' PLANT.

OFFERS are invited for the PURCHASE of
THE FOLLOWING BUILDERS' PLANT:
Mobile Compressor; 4in. Centrifugal Pump.
10 cu. ft. Concrete Mixer; Road Laying Machine.
2½-in. Road Roller; Colas Water Sprayer.
Builders' Hoist; Brick Crusher.
3-ton Mobile Crane; Road Breaker.
2in. Ram Pump; Trench Rammer.

This Plant may be inspected at the Corporation
works, Pine Grove, Bootle, during normal working
hours.

The items of plant are to be sold as inspected,
and the Corporation give no warranty as to the
condition or suitability for any particular purpose.

Offers, which may be for one or more items of
plant, must be on the prescribed form, copies of
which may be obtained from the Depot or from the
Borough Surveyor, Town Hall, Bootle, 20, Lancs.,
to whom they must be returned not later than
10 a.m. on WEDNESDAY, 7th September, 1960.

HAROLD PARTINGTON, Town Clerk.

COUNTY BOROUGH OF WALLASEY.
**BOROUGH ENGINEER AND SURVEYOR'S
DEPARTMENT.**

QUOTATIONS are invited for the PURCHASE of
THE FOLLOWING TYPES OF SCRAP METAL lying
at the WORKS DEPOT, MILL LANE, Wallasey:

MATERIAL:

- (1) Lead.
- (2) Cast-Iron.
- (3) Zinc.
- (4) Copper.
- (5) Steel and Wrought-Iron.

Form of Quotation, giving details regarding weights
available, and Conditions of Sale, may be obtained
by application to the Borough Engineer and Surveyor,
Town Hall, Wallasey. When completed, it must
be returned in the official envelope provided, which
must be sealed, not later than MONDAY, 12th
September, 1960.

A. G. HARRISON, Town Clerk.

BEDWORTH URBAN DISTRICT COUNCIL.

DISPOSAL OF COLLIERY SPOIL BANK.

The Council invite OFFERS for the DISPOSAL of
a COLLIERY SPOIL BANK situated at EXHALL
COLLIERY, off BAYTON ROAD, EXHALL, COVENTRY.
The bank has a capacity of approximately 106,000
cubic yards and consists mostly of red shale. The
material would be suitable as hardcore under footpaths,
or car parks.

Further particulars may be obtained from the
Engineer and Surveyor to the Council, Council Offices,
High Street, Bedworth, near Nuneaton, Warwickshire.

S. G. DEEMING, Clerk of the Council.

Council Offices,
High Street,
Bedworth,
Near Nuneaton,
Warwickshire.
9th August, 1960.

LITTLEPORT AND DOWNHAM INTERNAL DRAINAGE DISTRICT.

TENDERS are invited for the PURCHASE of a
Priestman Cub EXCAVATOR with Standard Equipment,
new 1945, and fitted with 26ft. Lattice Jib.
Powered by 12D.W. Dorman.

The above can be seen by appointment (after the
28th instant) with the Board's Engineer, MR. M. F.
CARTER, 71 Ely Road, Littleport, Ely, Cambs. Tel.:
Littleport 259.

Written Tenders, marked on the envelope
"Excavator," should reach me by 17th SEPTEMBER,
1960.

The Board do not bind themselves to accept the
highest or any Tender.

R. J. BROOKS,
Clerk to the Commissioners.

Granby Street,
Littleport,
Ely, Cambs.
18th August, 1960.

BIRMINGHAM TAME AND REA DISTRICT DRAINAGE BOARD.

SALE OF SURPLUS GENERATING SET.

The Board has for SALE a 1947 F2AX6 National
Coal Gas/Oil-Engined GENERATING SET,
Engine h.p. 275 on gas, 350 on oil, which requires
repair and does not include the Engine Auxiliaries,
direct-coupled to a 282-kVA 107-Amp.
generator. Oil 400 3.50, 420 3.50, 500 3.50, continuously
rated Alternator, including Generator Field Control
Gear but not the Main Circuit Breaker.

The equipment may be seen at Yardley Works,
Cole Hall Lane, Kitts Green, Birmingham, 33,
between the hours of 10 a.m. and 4 p.m. Appoint-
ments to view by telephone to the YARDLEY WORKS
SUPERINTENDENT (MR. SALT). Tel.: Bournville 2018.

The purchaser must be prepared to dismantle the plant and provide loading facilities and
labour.

The Board is not bound to accept the highest or
any other offer, and offers in writing are to reach the
undersigned not later than First Post on

MONDAY, 12th September, 1960.

ARTHUR J. WRIGHT,
Clerk to the Board.

Clerk's Office,

Lombard House,
Great Charles Street,

Birmingham, 3.
18th August, 1960.

**FULLER HORSEY
SONS & CASSEL**

AUCTIONEERS AND VALUERS**OF****PLANT, MACHINERY AND
FACTORIES****Since 1807****10 LLOYDS AVENUE****LONDON E.C.8****TELEPHONE: ROYAL 4861****Suburb****SALES BY AUCTION****E — R**

By Order of the SECRETARY OF STATE FOR WAR.
**MESSRS. FULLER HORSEY SONS AND
CASSELL**
have been instructed to offer for SALE by AUCTION
in Lots at the ROYAL ARSENAL, WOOLWICH,
LONDON, S.E.18, on TUESDAY, 6th SEPTEMBER,
1960, and following day, at 10.30 a.m. precisely
each day:

**ENGINEERS' MACHINE TOOLS;
INDUSTRIAL EQUIPMENT, AND
SURPLUS STORES****Including**

HORIZONTAL BORING MACHINE by Kearns and
Richards; Swift Sumerskill and Stirk motorised
PLANING MACHINES: TURRET, CAPSTAN and
S.S.C. LATHE: VERTICAL and HORIZONTAL
MILLING MACHINES: SURFACE, CYLINDRICAL
and UNIVERSAL GRINDERS; SLOTTING MACHINES;
RIFLING and BROACHING MACHINES: 2 Barber-
Greene TWIN AGGREGATE DRYERS; 14 Barber-
Greene TARMACADAR DRYER: SOIL PREPARATION
and MILLER PLANTS: 3 Le Blower No. 2 D.E.P. HOP-
PING MACHINES: 20-ton Miscellaneous MO-
TIONAL HAND TOOLS: Diesel- and Petrol-driven
GENERATING SETS and POWER UNITS: Petrol-driven
Compressor Sets: FORK LIFT TRUCKS: Pumping
Sets: Electric Motors: 1,100 12-ton and 15-ton
Ratchet Jacks: Pneumatic-type Trailers: Rubber
Outer Covers: Metal Boxes: 500 P.M.F. BINGOULARS:
Prismatic Compasses: Radar and Radio Scans;
Aircraft, Radio and Electrical Stores; miscellaneous
Hand Tools: Drawing Instruments: Scrap Batteries:
Catalogues, 1/- each, admitting two persons on
View Days (Wednesday, Thursday, Friday and Monday
preceding Sale) and one on Sale Day, may be had
when ready from the AUCTIONEERS' OFFICES,
Dept. X, 10 Lloyds Avenue, London, E.C.3.

By Order of the Secretary of State for War.
E — R

BORDON, HANTS.

W.D. LAUNDRY AND BROCHEAD CAMP.
On the Headley-Sleaford Road (B.3004), 3½ miles off
the main Farnham-Petersfield Road (A.325) from
Bordon Camp.

**HIGHLY IMPORTANT AUCTION SALE OF
W.D. LAUNDRY PLANT AND EQUIPMENT****Including**

2 LARGE HORIZONTAL STEAM BOILERS, by Banks
(Newtown) and Cochran, complete with Electric-
driven pumpers, Motors and fittings; 1 HORIZONTAL
STORAGE CALORIFIERS; 2 VERTICAL PRESSURE
FILTERS: VERTICAL WATER SOFTENER: Boiler Feed
Pumps, Recorders, Steam and Water Piping and
Fittings; 2 PULSOMETER WATER PUMPS WITH
ELECTRIC MOTORS AND GEAR; ARMY BUILDINGS,
including 10ft. x 7ft. x 7ft. x 16ft. STEEL FRAMED LAUNDRY
BUILDING 20ft. x 74ft. x 7ft. STEEL ROMNEY HUT
9ft. x 36ft. x 7ft. Nissen Huts, etc.

SCAMMELL AND SMITH
are instructed to SELL the ABOVE by AUCTION
in Lots, on the Site, as above, on WEDNESDAY,
7th SEPTEMBER, 1960, at 12 Noon.

On View Two Days prior to the Sale. Admission
by Catalogue (price 4d.), of the Auctioneers. The
Auction Mart, Eastleigh, Hants. (Tel. 2201-3), and
at Chandler's Ford, Hants.

PORTSMOUTH.

EX. NAVAL CAMP SITE,
NORTHERN PARADE, HILSEA.
Within ½-mile from Portsbridge Roundabout and
about 1 mile from the City Centre.

An Important AUCTION SALE of
25 SECTIONAL TIMBER HUTS, measuring from
20ft. x 20ft. to 72ft. x 39ft.; 2 ASBESTOS NISSEN
HUTS, 36ft. x 16ft.; 1 LARGE IDEAL SECTIONAL
BOILER with Hot Water Cylinders, Storage Tanks,
Piping and Fittings, etc. The Huts are very suitable for
recreational, industrial, agricultural and many
other purposes.

SCAMMELL AND SMITH
are instructed to SELL the ABOVE by AUCTION IN
Lots, ON THE SITE, as above, on THURSDAY, 1st
SEPTEMBER, 1960, at 12 Noon. On View 2 days prior
to the Sale.

Catalogues (price 4d.) of the Auctioneers, The
Auction Mart, Eastleigh, Hants. (Tel. 2201-3) and
at Chandler's Ford, Hants.

EX-OFFICER CADET SCHOOL,**EATON HALL, CHESTER****(Belgrave Entrance—Main Wrexham Road).****SECOND AND FINAL SALE OF****HUTMENTS AND MATERIALS****including**

62 Steel Roof Trusses 19ft. span: 7,000 lin. ft.
Angle-iron Purlins, mainly 3½in. x 2½in. x 1½in.;
400 "Big Six" Corrugated-asbestos Sheets 7ft. x
4ft. 6in.; 300 3in. Ditto 7ft. x 5ft.; 200 Cast-iron
Nissen Sheets: 500 Sheets Hardboard: 1,000 Concrete
Paving Slabs: 200 Pine Boards: 20 Glazed Wash-
basins: 250 lin. ft. Chain Link Fencing: Miscellaneous
Items.

AUCTION ON THE PREMISES,
WEDNESDAY, 14th SEPTEMBER, 1960, at
11.30 a.m.

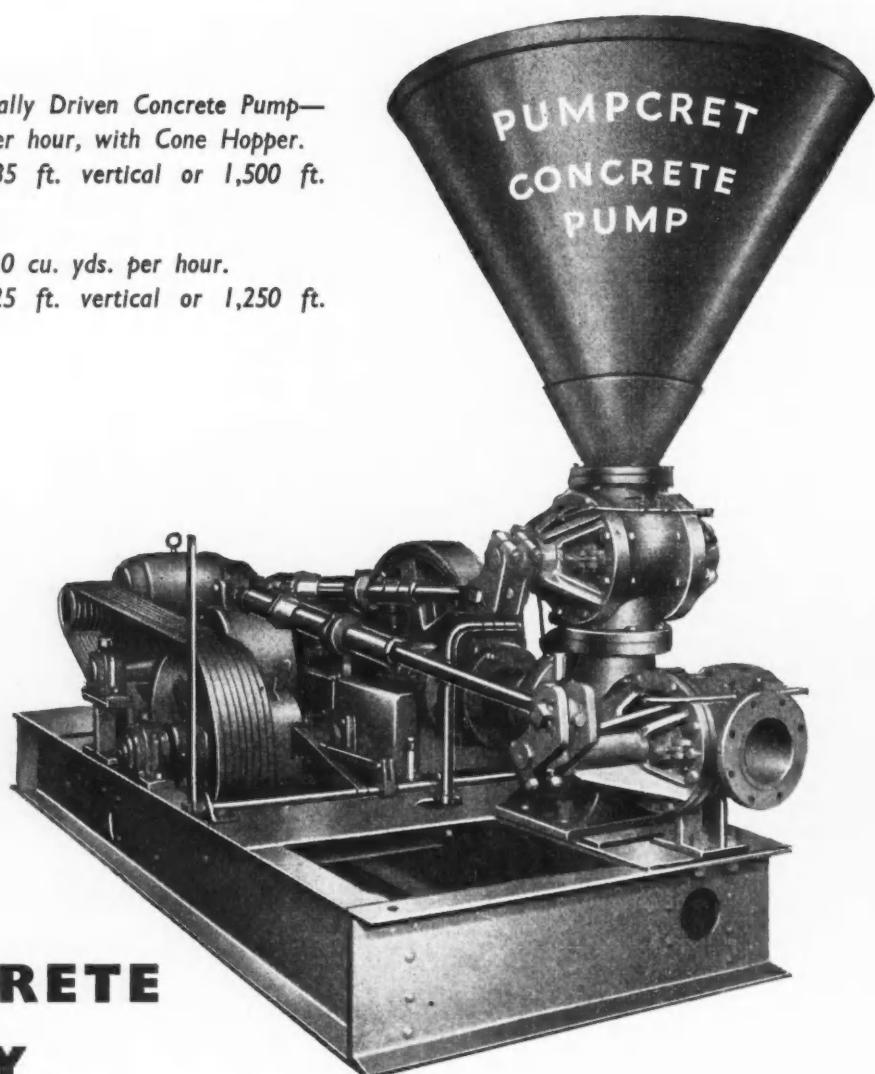
VIEW (by Catalogue only): 10th, 12th and 13th
September from 10 a.m. to 4.30 p.m. No Viewing
Sunday, 11th September.

Catalogues from the Auctioneers:

JACKSON - STOPS AND STAFF
25 Nicholas Street, Chester. Tel. 21522/3.

**The PC3 Electrically Driven Concrete Pump—
20/24 cu. yds. per hour, with Cone Hopper.
Range up to 135 ft. vertical or 1,500 ft.
horizontal.**

**Smaller PC4—8/10 cu. yds. per hour.
Range up to 125 ft. vertical or 1,250 ft.
horizontal.**



CONCRETE BY PUMP AND PIPELINE

- The most efficient method of placing concrete.
- Life of Pump practically indefinite : all essential surfaces in contact with concrete are renewable.
- Pumpable concrete must of necessity be good concrete.
- Pump and Mixing Plant can be located at the most convenient position within the pumping range.
- The continuous output of the Pump at a constant speed governs the working of the whole concreting gang.

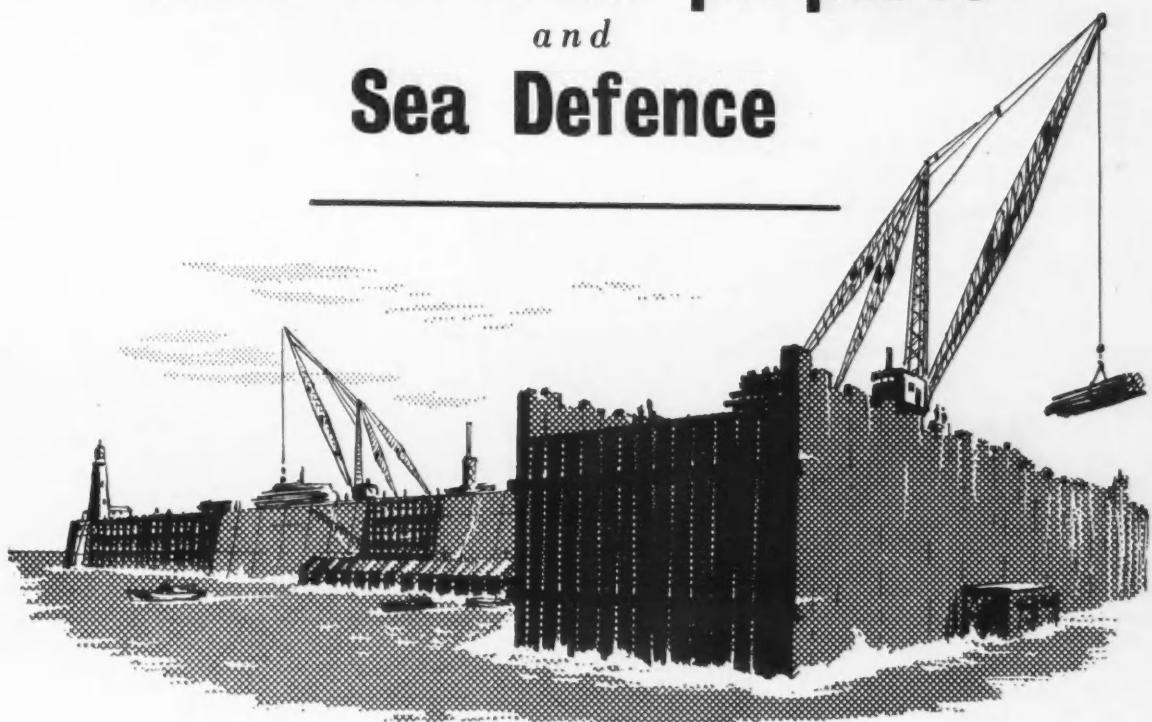


THE REGISTERED TRADE MARK
OF THE CONCRETE PUMP
COMPANY LIMITED

THE CONCRETE PUMP COMPANY LTD

4 STAFFORD TERRACE · LONDON · W·8
Telephone: Western 3546 Telegrams: Pumcret, Kens, London

T I M B E R
for
Constructional purposes
and
Sea Defence



JARRAH *and* KARRI
GREENHEART

DENNY MOTT & DICKSON LIMITED

Importers & Stockists of Hardwoods, Softwoods, Plywood & Wallboards

Adelaide House, King William Street, London, E.C.4. Tel: MANSion House 0550

Belfast, Birmingham, Bristol, Cardiff, Glasgow, Hull, Liverpool, Manchester, Newcastle, Preston, Southampton

AP69

DORMAN

Replacement Exchange Engines

MINIMUM PLANT IMMobilISATION

FITTED WITHIN 24 HOURS

FURTHER DETAILS

FULLY GUARANTEED

FROM

ALL THE SEPARATE
UNITS ARE ALSO AVAILABLE
UNDER OUR EXCHANGE SCHEME
BLOCKS, PUMPS, GOVERNORS, ETC.

JOHN A. SPARKS & CO. LTD.

SOUTHERN & WESTERN CONCESSIONAIRES FOR DORMAN DIESEL ENGINES

STREATHAM HILL · LONDON · S.W.2 Tulse Hill 3434 (5 lines)

WESTERN DEPOT: 36 TUDOR ST., Phone: Cardiff 32342

INDEX TO ADVERTISERS

Advertisements received too late for classification

BOROUGH OF MORECAMBE AND HEYSHAM.

PRIVATE STREET WORKS.

Firms desirous of TENDERING for the MAKING-UP of the FOLLOWING STREETS should submit applications with a deposit of 10s. in respect of each street to the Borough Engineer and Surveyor not later than FRIDAY, the 10th September, 1960.
Strickland Drive, 40yd.; Beaumont Road (part), 263yd.; Farnlea Drive, 35yd.; Huntley Close, 53yd.; Azalea Grove, 43yd.; Easdale Avenue, 60yd.; Fairhope Avenue, 217yd.; Tomlinson Road (part), 35yd.; St. Christopher's Way, 323yd.; Sugham Lane, 233yd.; Standard Avenue (part), 40yd.; Coniston Road, 190yd.

Tender documents will be issued after the 19th September, 1960.
The lowest or any Tender not necessarily accepted.
ROGER ROSE,
Town Clerk.

22nd August, 1960.

BOROUGH OF NEWARK-ON-TRENT.

HAWTON ESTATE—ADDITIONAL ROADS.

TENDERS invited for the CONSTRUCTION of approx. 770 sq. yd. CARRIAGeway FOUNDATIONS; 1,560 sq. yd. ASPHALT SURFACING; 1,300 sq. yd. of FOOTWAY, and PROVISION and LAYING of approx. 280 lin. yd. PRECAST CONCRETE KERBS, and ancillary works.

Tender documents may be obtained from, and Drawings inspected at, the Office of the Borough Surveyor, Municipal Buildings, Newark-on-Trent, on payment of £2 2s., returnable upon receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes endorsed "Hawton Estate—Additional Roads," must be delivered to the Borough Surveyor by Noon, SATURDAY, 10th September, 1960.

The Council does not bind itself to accept the lowest or any Tender.

J. H. M. GREAVES,
Municipal Buildings,
Newark-on-Trent.

22nd August, 1960.

QUALITY SURVEYOR REQUIRED by civil engineer for contracts to work from head office. new appointment to meet expansion. Applicants must have had wide experience in civil engineering and building contracts. Estimating experience would be an advantage. Please apply by letter, giving full details, including experience, qualifications, age and salary required, to General Manager, NIGRAM CONSTRUCTION LTD., 75 Hobbs Most Road, Solihull, Warwickshire, marking envelope "Personal."

SUPER-AGENT, with wide experience of marine and heavy civil engineering works, REQUIRED by major firm of civil engineering contractors. Appointment will be in N.E. England in first instance, with good promotion prospects.—Write to Box V.2522, "The Contract Journal," quoting Ref. NLM/8.

SOUTH-WEST ENGLAND—National contractors invite applications from experienced men for the following posts for their local office: SUPERVISORS, preferably engineers trained with good experience in reinforced concrete contracts essential, together with knowledge of modern methods of construction and planning; GENERAL FOREMEN, preferably computer trained and with experience in charge of reinforced concrete construction; SENIOR PLANNING ENGINEERS for pre-estimate planning, detailed programming of structural and building contracts, including co-ordination of site planning, engineering, all trades, with detailed knowledge of reinforced concrete work. The appointments will be to the permanent staff, and offer interesting and varied work with excellent opportunities for increased responsibility and/or advancement to more senior positions and appropriate remuneration. Please send full details in confidence, to Box SW.3693, A.K.Advtg., 212a Shaftesbury Avenue, London, W.C.2.

GARDEN MASONS.—Experienced Masons, capable of working to the highest standards, for paving, walling, steps, etc., and preferably also with experience of reinforced concrete construction. Willing to work in any part of the country. Good pay and allowances. Pension scheme.—WILLIAM WOOD AND SON LTD., Taplow, Buckinghamshire.

REPRESENTATIVE.—Important Derbyshire quarrying organisation REQUIRES additional REPRESENTATIVES to be undertaken by young men of age, possessing good sales knowledge and experience of the quarrying trade. Full information of education, past and present business positions and employers, and stating whether married or single to be given in confidence. Contributory pension scheme in operation. Car provided. Salary according to experience.—Write Box V.2558, "The Contract Journal."

EXCELLENT opportunity for young Civil Engineering AGENT/FOREMAN, 26-38 years, preferably carpenter or bricklayer, to supervise medium-size contract in South-Eastern Counties.—Write full details, with references, to Box V.2560, "The Contract Journal."

CIVIL ENGINEERING contractors REQUIRE TECHNICAL STOREKEEPER for Middle East contract commencing immediately. Two years' contract. No married quarters. Good pay and allowances.—Write, stating age and experience, to Box V.2576, "The Contract Journal."

GENERAL FOREMAN REQUIRED for private estate housing sites in South, South-East and East. Applicants should have at least five years' previous experience of private estate development, including roads and sewers. Good salary and bonus paid. Every effort will be made to provide continuity of work for those proving their efficiency.—Write, giving full details of experience, to Box V.2580, "The Contract Journal."

EXPERIENCED SITE ENGINEERS SURVEYORS REQUIRED by civil engineering contractors based in Hull. Fully experienced setting-out, measuring, valuations and final accounts, and able to work with minimum supervision. Pension and life assurance scheme in operation. Excellent prospects for right man.—Write, giving full details, in strictest confidence, to Box V.2575, "The Contract Journal."

TRUCK MIXERS FOR SALE.
Four 1958 3½ cu. yd. Blaw Knox Truck Mixers, mounted on 1956 Dodge Chassis. Two 1955 2½ cu. yd. Ransomes-Rapier Truck Mixers, mounted on 1956 Dodge Chassis. One 1951 2½ cu. yd. Hammar-Perry Truck Mixer, mounted on 1951 Dodge Chassis.

Apply to:

READY MIXED CONCRETE (SHEFFIELD), LTD., Fargate House, Sheffield, 1. Tel. 24363.

COUNTY BOROUGH OF SOUTHPORT.

The COUNCIL invite TENDERS for the FOLLOWING CONTRACTS connected with the PROPOSED ALTERATIONS and EXTENSIONS at the FLORAL HALL:

MAIN CONTRACT—for the Alterations and Extensions on Site of Quantities.
SUB-CONTRACT—for the Electrical Installation on Specification and Drawings.

The Bills of Quantities or Specification may be obtained from, and the Drawings inspected at, the Borough Architect and Town Planning Officer's Department, 99-105 Lord Street, on payment of Two Guineas.

Contractors are requested to apply for the Bills of Quantities Specification and send the deposit now. Documents will be forwarded on the 10th September.

Deposits are refundable on receipt of a bona-fide Tender.

Tenders to be delivered to the undersigned by 7th OCTOBER, 1960.

R. EDGAR PERRINS,
Town Clerk.

BOROUGH OF WILLESDEN.

CONSTRUCTION OF COMBINED SEWER—DENMARK ROAD, KILBURN, N.W.6.

TENDERS are invited from experienced contractors for the CONSTRUCTION of approx. 130 lin. yd. of Nine-inches SEWER, together with Manholes and ancillary works.

Forms of Tender, Specification, Bills of Quantities and Drawings may be obtained from the Borough Engineer and Surveyor, Town Hall, Dyne Road, N.W.6, on payment of a deposit of Two Guineas, which will be returned on receipt of a bona-fide Tender or return of the documents.

Tenders, sealed in the envelope provided, must be returned to the undersigned not later than 10 a.m. on TUESDAY, 20th September, 1960.

R. S. FORSTER,
Town Clerk.

Town Hall,
Dyne Road,
Kilburn, N.W.6.

EXPERIENCED PLANT FITTERS and ELECTRICIAN REQUIRED, able to work with minimum of supervision. Top rates of pay and good prospects of promotion for energetic men. Permanent situation.—Apply THOS. W. WARD, LTD., Titan Works, Grays, Essex.

A GENT REQUIRED by established firm of sports-ground and landscape contractors, based on Cheshire area, to take charge of sports-ground section of company. A bonus scheme is operative and salary according to experience. Vehicle provided.—Write Box V.2557, "The Contract Journal."

LEVERTON OF LEEDS, LTD., Caterpillar Dealers. **EARTHMOVING SALESMAN REQUIRED**. Due to recent promotions, a vacancy now occurs for a young SALESMAN with experience of earthmoving equipment and the civil engineering industry. The successful applicant is assured of a progressive position in an expanding specialist organisation. All applications treated in strict confidence.—Apply with full details education, experience, qualifications, etc., to Sales Director, LEVERTON OF LEEDS, LTD., Gelderd Road, Gildestone, Leeds.

CIVIL ENGINEERING ESTIMATOR REQUIRED. Please apply in writing, giving full details of previous experience, to WILLMENT BROS., LTD., 462 London Road, Isleworth, Middlesex.

LAND SURVEYORS—STEWARTS AND LLOYDS LTD., REQUIRE at Corby, Northamptonshire, LAND SURVEYORS with experience on building projects in line and level survey, setting-out and survey plotting. Applicants must be experienced in tacheometric as well as traverse survey work. Corby is a New Town and housing conditions are favourable. Care and representation facilities are good. The company operates a group pension and life assurance scheme.—Apply to Manager Personnel, Stewarts and Lloyds, Ltd., Corby, Northamptonshire.

CHARGEHAND WORKSHOP FITTER REQUIRED. Good rates, permanency, pension scheme. Local man preferred.—MOORE'S PLANT, LTD., TOT 0401, Ext. 1.

LANDSCAPE FOREMEN.—Experienced Landscape Foremen, capable of working to the highest standards, and of controlling a labour force on large contracts, for general landscape construction, including bulk excavation by machine, grading, seedling, planting, reinforced concrete work, drains and paths. Good pay and allowances. Pension scheme.—WILLIAM WOOD AND SON, LTD., Taplow, Buckinghamshire.

GENERAL FOREMAN REQUIRED for contract, South-East, Home Counties area. Applications are invited from first-class men.—Write, giving details of past experience, and salary required, to Ref. R.I.W. PERCY BILTON, LTD., Bilston House, Ealing, W.S.

REINFORCED CONCRETE DETAILER.—ORLIT LTD., have vacancy on reinforced concrete work, both in-situ and precast. Previous experience in this specialised field essential. Position is progressive and offers excellent scope for advancement.—Apply in writing to Contracts Director, Orlit, Ltd., Vicarage Road, Egham, Surrey.

JUNIOR ENGINEERS REQUIRED for contracts in Devon. Applicants should have at least three years site experience with a reputable contractor. The posts are intended to be permanent and offer excellent opportunities in an expanding organisation. Apply in writing, giving age and full details of experience, to DEVON CONTRACTORS, LTD., Venny Bridge, Whipton, Exeter.

PLANT MANAGER.—A vacancy exists for a young and competent man to take charge of, and expand, small established contractors' plant hire business.—Write, stating age, experience, and salary required, to GEO. E. CLOKE, LTD., Neasden Lane, London, N.W.10.

REQUIRED for Motorway Project.—Remunerative post, as under, REQUIRED for firms of civil engineering contractors. All posts offer the opportunity for advancement and an interesting career.—PROJECT MANAGER, SENIOR AGENTS, SENIOR SITE ENGINEERS, GENERAL FOREMEN. Applicants must have had previous experience of motorway construction and should be of proven successful background.—Write, with fullest details, outlining previous experience, qualifications (if any), and salary required, to Box V.2569, "The Contract Journal."

TIMEKEEPER REQUIRED immediately for hydroelectric contract.—Apply, giving full details of past experience, to THE CEMENTATION CO., LTD., Nant-y-Moch Contract, Ponterwyd, near Aberystwyth.

BOROUGH OF NEWCASTLE-UNDERLYME.

SILVERDALE INDUSTRIAL ESTATE.

ADVANCE PREPARATION.

TENDERS are invited for the FOLLOWING WORKS to be carried out at the ABOVE SITE.—Approx. 300yd. of 6in. and 9in. G.S.W. Sewers. Four Manholes and Four Lamp Eyes. Seven Gullies and Connections.

1,320 sq. yd. of Carriageway. 425 lin. yd. of Kerb.

Plans may be inspected and tender documents obtained at the Office of the Borough Engineer and Surveyor, Lancaster Building, High Street, Newcastle, St. John's.

The successful contractor will be required to conform to the Standing Orders of the Council relating to contracts.

Tenders must be returned to me in a plain sealed envelope, and endorsed "Silverdale Industrial Estate," to be received by 12 Noon on MONDAY, 12th September, 1960.

C. J. MORTON,
Town Clerk.

CITY OF LIVERPOOL.

TENDERS invited for SUPPLY of the FOLLOWING:

Tender Form
No. Uniform Clothing (Male and Female) ... 1
Uniform Caps, Helmets, etc. ... 3
Waterproof Clothing, Leggings and Gloves ... 4
Overall Clothing, Aprons and Bimmen's Coats ... 5
Health Visitors, etc., Uniform Clothing Shirts, Collars, Ties, Stockings, Socks ... 6
Hats, Pullovers ... 7

Tender Forms to be sent to the General Manager, Corporation Central Clothing Department, Edge Lane Works, Liverpool, 7, returnable by SEPTEMBER 10, 1960.

Tenders will not be considered unless the appropriate current Corporation Standard Samples are inserted at the addresses specified in the Tender Forms. (L.6359)

THOMAS ALKER,
Town Clerk.

PLANT AND DEPOT MANAGER REQUIRED

immediately. To be responsible for workshops and stores, and to supervise the servicing of mechanical plant employed on a variety of civil engineering and underground contracts in South Wales, experience with Elmo loaders, compressors, and general contractors' plant essential. Age 30-45. The position will be permanent and carries a good basic salary with bonus and usual allowances.—Please write, giving details of career and qualifications, quoting Ref. 239, to the Personnel Officer, THE CEMENTATION CO., LTD., 20 Albert Embankment, London, S.W.1.

WORKSHOP FITTERS REQUIRED. Good rates, permanency, pension scheme. Local men preferred.—MOORE'S PLANT, LTD., TOT 0401, Ext. 1.

HARDCOURT FOREMEN.—Experienced Hardcourt Foremen REQUIRED to work to the highest standard on the construction of all types of hardcourt, including tarmacadam, etc. Pay and allowances. Pensions scheme.—WILLIAM WOOD AND SON, LTD., Taplow, Buckinghamshire.

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PRINCIPAL CONTENTS

	PAGE
Great North Road Improvements: Progress in the West Riding	904
Design and Performance of Structures: Work of the Building Research Station	909
Co-ordination in Building: Building Research Station's Hatfield Demo.	911
Sliding Shuttering Builds 120ft. High Silo in Ten Days	913
Late Construction	914
John Sumner's Notebook	915
Talking of Safety, by "Dragee"	916
Book Reviews	916
Multi-storey Car Park for 3,300 Vehicles	917
Milford Haven Jetty to Serve Fleet of Launches	917
Men and Movements	918
Durability of Reinforced Concrete in Sea Water	919
Welshpool Housing Scheme Incorporates Carports	919
International Construction	920
Trade Section	922
CURRENT CONSTRUCTIONAL ACTIVITIES:	
Projects	925
Contracts	928
Awards	933

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HOSPITAL BUILDING

GOVERNMENT expenditure on hospital building is to increase substantially over the next six or seven years and is expected to amount to some £300m. As was the case with the school building programme this presents a considerable challenge to designers and offers much scope for rewarding research.

What is being done to see that the country obtains the best possible hospitals and value for money? The Royal Institute of British Architects have held a stimulating exhibition in conjunction with a short study course for architects; the Nuffield Foundation is holding a residential course for newly recruited architects on the regional boards; the King Edward's Hospital Fund for London has announced a training programme for work study officers; and the Building Research Station has decided to undertake an investigation into hospital design and construction.

This latter investigation, with the promise of lowering costs, comes none too soon. On the design side the hospital programme has not got off to a very encouraging start. For instance, the design of the proposed new Cardiff medical teaching centre has been strongly criticised not on the grounds of appearance but on performance and function, and in some completed hospital buildings services have been found to be inadequate.

Engineering installations in large buildings have become increasingly complex and expensive—their cost in hospitals for example is estimated to amount to a third of the total building cost. The integration of the services with building design and construction and their adaptation to meet particular needs raises many problems. Ways of providing these services more economically are to be studied by the Station.

For the hospital building programme efficiency, speed and economy must be the goal. In school building the Ministry of Education have shown that this can be reached and the Ministry of Health, under the new Minister, with the assistance of such organisations as the Building Research Station should be able to do likewise.

Assessing the Value of Road Improvements

THE Government's decision that for planning purposes Exchequer expenditure on classified roads should be fixed over a period of five years has been well received by local highway authorities. This relatively long-term assurance provides them with the opportunity of reassessing schemes already prepared to ensure that not only will these schemes be adequate for the traffic of the 1960's but that they are the ones which will give the best returns for the money spent.

In this connection the Road Research Laboratory have developed a method for assessing the merits of alternative road improvement schemes on the basis of their relative value to the community. The method—which involves estimating the monetary value of the net annual benefits and comparing it with the capital cost of the improvements—is described in Road Research Technical Paper No. 48.

The method has been tried out by a panel of engineers serving with highway authorities. Among the examples worked out in detail, the calculated rates of return were 16 per cent. on the widening and realignment of a country road and 380 per cent. on the widening of an urban intersection. These figures make no allowance for non-measurable benefits such as a reduction in suffering from accidents and savings of non-working time.

This work of the Road Research Laboratory is an important contribution to road planning for it enables a value in hard cash to be put on any proposed road improvement.

GREAT NORTH ROAD IMPROVEMENTS

Progress in the West Riding

SUBSTANTIAL progress is being achieved with the schemes to improve and convert to dual carriage-way the whole of the Great North Road in the West Riding.

The complete project, which will cost in the region of £15m., has been divided into 15 schemes for administrative and contract purposes. Of these schemes, two have been completed; seven are under construction; and the contract for one is about to be let. By the summer of next year, 36 miles of the route in the county will have dual carriageways, and of this length 26 miles will be continuous. Design and execution of most of these schemes has been brought within sight of completion in less than three years.

Doncaster Motorway

Among the schemes now under construction, that for the Doncaster Motorway (general details of which were given in *The Contract Journal*, July 7, 1960) ranks as the largest, and is indeed the largest single project yet undertaken along the whole of the Great North Road.

Designed for dual 24ft.-wide carriageways, with a 15ft.-wide central reservation and 9ft. wide hard shoulders, the motorway will have curves allowing safe speeds of 70 m.p.h., superelevated with transitional approaches. A standard side slope for cuttings and embankments of 1-in-2 has been adopted, although certain cuttings in boulder clay have a slope of 1-in-3, and in the case of a magnesian limestone cutting at Warmsworth, the side slope is 1½-in-1. Gradients will not be steeper than 1-in-26, and a visibility distance of 800ft. will be obtained on each carriageway, with one or two exceptions where conditions dictate a slight relaxation of these standards. Of the total length of the motorway, 6½ miles will be in cutting and six miles in embankment.

From Redhouse, where the motorway

will join both the A.1 and the Doncaster-Wakefield road, it will run southwards for 12½ miles to Tickhill, by-passing Doncaster and passing close to the villages of Brodsworth, Pickburn, Sprotborough and Wadsworth. Two intermediate access points will be provided, one at Warmsworth with the A.630 and the other at Marr with the A.635, using slip roads.

Twenty-eight bridges of six types will



T-shaped piers and steelwork for the Don Bridge

be constructed, and these will include a major structure over the River Don, which bisects the route at about the halfway mark.

Work has been in progress for about 13½ months of the 24-month contract period and major earthworks have been completed, except for the cutting through Warmsworth to the River Don which is

proceeding with two RB.110 excavators and a fleet of Euclid dump trucks. These earthworks called for a total excavation of 3,000,000 cu. yd., made up of 2,700,000 tons of rock and 1,500,000 tons of soft material.

New Haunching Method

North of the Don, concrete haunching is virtually complete for the northbound carriageway, and is well advanced for the southbound carriageway. Special shuttering, embodying jacks and flanges, designed by Cyril Parry, D.F.C., M.I.C.E., M.I.Struct.E., is being used for this 12in. by 12in. marginal haunching. Water has been kept to a minimum in the dry mix concrete, which has a strength of 5,000lb. at 28 days. Forms are stripped after three hours, and with good conditions runs of 2,500ft. of haunching per day have been achieved. It is hoped to reach a figure of 3,000ft. per day before the haunches are completed. Outside the marginal strips, the shoulders of the motorway, which will be used for emergency stopping purposes, will be given a bitumen surface.

The sub-base for the motorway has almost been completed on the northern half of the route, and laying of the cement stabilised base has recently commenced on the northbound carriageway at the River Don and is proceeding through Ducker Holt cutting.

Depth of the sub-base varies from 2in. of shale in clay cuttings to 6in. of shale on embankments, or a 6in. dry-lean-concrete-mix in rock cuttings. The base consists of 8in. of dry-lean concrete with minimum strength of 800 p.s.i., above which will be laid a 2½in. layer of hot-rolled asphalt, with a top surface comprising 1½in. of hot-rolled asphalt.

This minimum construction thickness of carriageway was adopted as the greater part of the rock excavated consists of magnesian limestone, which is particularly susceptible to frost damage.

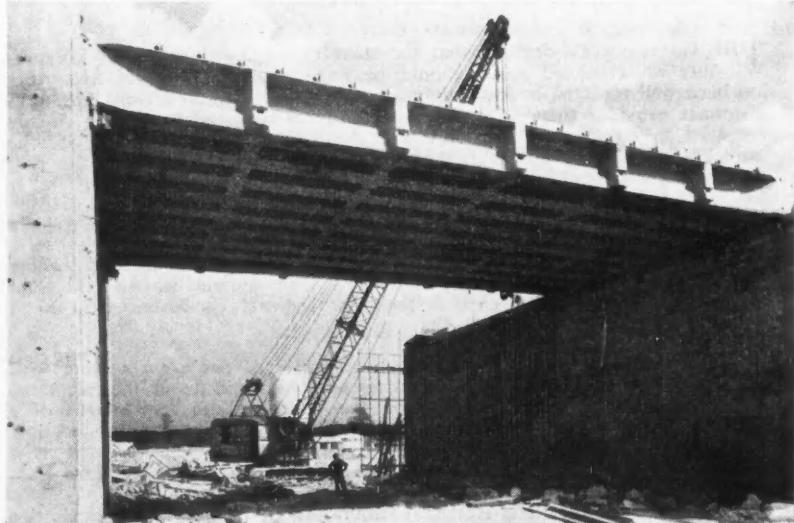
From the batching plants, the dry mix is brought to the concrete train and discharged into one of two Koehring 34E twinbatch pavers, each of which feeds an A.B.G. box-type spreader. These spreaders follow a Blaw Knox sub-base regulator and S.G.M.E. sub-base compactor, and are themselves followed by two A.B.G. compactors and an automatic spraying unit.

Drainage will be, by means of french drains in cuttings, or gutter drains at the sides of rock cuttings, both being connected to main drains as necessary.

Subsidence Expected

Mining subsidence is experienced over almost the whole length of the route, and in some places this is likely to be severe. For example, a subsidence of 14ft. is expected in the Pickburn area. Because of this, heavy duty reinforced concrete pipes with flexible joints have been specified for main drains and pipe culverts beneath the motorway. No concrete surround is required with these pipes, flexibility being achieved by means of a rubber ring at the joints which is rolled into position as the pipes are laid. The pipes are required to withstand a specified two-edge load test, which is 10,000lb./ft. run in the case of 60in. diameter pipes.

South of the Don, the shale sub-base has been completed in Broomhouse cutting, and is proceeding at many places. On this portion of the route, at Tickhill, it was necessary to remove three-quarters of a mile of peat bog, about 8ft. deep, using two Lima 1201 draglines. About 130,000 cu. yd. of peat was removed and replaced with imported sand and gravel loaded by Michigan loading shovels onto transport from a nearby acre of land which had to be purchased for the purpose. About



Construction in progress on one of the two overbridges at Marr

250,000 tons was imported, and the shovels achieved a maximum of 6,000 tons delivered per day.

All underbridges are nearly complete on the northern half of the motorway, and of the overbridges Brodsworth railway bridge and Warmworth (South) bridge are complete, while work is almost finished on the Albert bridge. In the southern section all bridges except that at Tenter Lane are under construction and many are nearing completion.

The Brodsworth railway bridge, designed by John Dossor who acted as engineer for its construction on behalf of the North Eastern Region of the British Transport Commission, consists of two spans founded on two concrete abutments, and a central concrete pier, all founded in limestone. Each span has two main steel girders, with steel cross joists, encased in concrete, forming the deck.

Don Bridge

A major structure is being erected over the River Don. At present all abutments and piers are complete, and all temporary erection steelwork is in position. Erection of the permanent steelwork is in progress from both sides of the river.

The bridge will be a seven-span viaduct, consisting of two parallel but separate structures, 760ft. in length between abutments. The parallel structure design was adopted not only to avoid undue stress during subsidence, but to make available one carriageway while the other is being jacked level after the subsidence wave has passed.

Four of the spans will be of 100ft., two of 90ft., and one of 180ft. over the river itself. This last span will consist of a suspended span 100ft. in length on two cantilevers 40ft. long, the anchor arms for which form the adjacent spans of 100ft.

Each of the 24ft.-wide carriageways will be carried over the 86ft. overall width of the bridge on five riveted steel girders. The deck, designed as a continuous slab, will be of 9in.-thick reinforced concrete, with a small oversail past the outer girders, and with the exception of the anchor arms and cantilever arms, the deck will act compositely with the steel girders giving a saving of about 400 tons of steel in the flanges.

Traffic on the bridge will be separated from the parapet by an 8ft.-wide hard shoulder, which will have a crossfall away from the railings of 1-in-30 for increased safety. The running surface will consist of a total of 2in. of asphalt on top of a 1in.-thick waterproof membrane, and marginal strips will be formed by a 1in.-thick strip of white asphalt.

Abutments, which are founded on solid rock, are of the counterfort type, and are constructed on four completely separate sections, joined only by a rubber water stop, in order to minimise the effects of mining subsidence. The wing walls have

cantilevered leaves which reduce to a large extent the foundation work, and the bridge seating beam was given an additional width to facilitate the jacking of the girders.

The columns of the T-shaped piers are hexagonal in section and measure 11ft. by 9ft. at the base of the longest, tapering to 9ft. by 7ft. 6in. at the top of all the columns. Octagonal and rectangular pile caps on 4ft. 6in. diameter bored piles

was essential that special expansion joints should be incorporated in the design of the bridge, which had to be of the viaduct type due to the impossibility of building a stable embankment on the silt.

Two types of expansion joints are being used, designed to take larger variations than would have been necessary through temperature changes alone. The first consists of a 2in. gap between mild steel



Completed steel Brodsworth railway bridge

carry the columns, the two northern piers, however, being founded directly on the magnesian limestone.

Piling Difficulty

The depths of the piles in the limestone vary from 25ft. on Piers 1 and 4 to 50ft. on Pier 3 near the south bank. On every pile, water was encountered at about 6ft. below ground level, and from thereon they were driven through water, in strata comprising mainly brown clay, gravel and limestone. It was found impossible to dewater the piles for dry placing of concrete, and concreting was finally achieved under water by means of an 8in. Tremie pipe. To prevent the entry of silt into the pile bottom, the head of water in the cylinder was increased to about 6ft. above the surrounding water table, which reversed the flow of water at the cylinder cutting edge.

Because of the anticipated 10ft. subsidence, together with a differential subsidence of about 10in., and a land stretching or shrinking of about 1in. in 100ft., it

angles at the end of each 100ft. span and at the ends of the anchor arms, filled with a strip of Butyl rubber. This is compressed under normal conditions to allow a proper fit when the gap is at its largest, and is located through spikes which protrude from the angles.

Designed to accommodate variations in length of the 180ft. span, the second expansion joint is of a heavily galvanised comb type, made from mild steel flats, and is attached to angles cut from rolled steel channels which are riveted to the steel girders. Adjustment can be made by the use of slotted bolt holes in both the angle and comb, and the joint can be easily removed for replacement, although it is designed to act as formwork for both the concrete deck and the asphalt.

Three different types of bearings are employed to carry the girders. A fixed bearing at one end of all the spans consists of a curved upper plate resting on a flat plate and located by two upstands, and at the other end of the spans, and at the end of the anchor arms, is a roller bearing com-



View of completed Marr South bridge, where the A.635 will give access to the motorway

prising a section of cylinder free to roll between two flap plates. Both these types are encased in grease. The third bearing is of a knuckle type, consisting of a steel cylinder seated in an upper and lower cup, and is used to carry the anchor arm and cantilever arm girders.

The cost of the bridge is estimated at £650,000.

Plant valued in the region of £1m. is being used for the construction of the motorway, and includes such machines as D.8, 9, 7, 4, BTD 6, 20, Fiat, Hanomag, Vickers and Euclid bulldozers; Ruston-Bucyrus 10, 19, 20, 22, 33, 38, 54 and 110, Priestman Cub, Wolf, Panther, Ransomes 423 and 424 excavators; Galion, Wakefield, Aveling and Carlisle graders; DW 21 and S 21 motor scrapers; Michigan loading shovels; 22 and 15-ton Euclid dump trucks; Broom and Wade, Holman, McKay and Climax compressors; and Liner, Benford and Winget concrete mixers.

and utilising transition curves where required.

Carriageways are of flexible construction, the pavement thickness being designed on the basis of the California Bearing Ratio of the underlying sub-base material. They will be constructed of an approved sub-base of varying depth according to the design thickness, premixed cement stabilised granular base 8in. thick, and 2½in. thick base course of hot-rolled asphalt surfaced with 1½in. of high stone content hot-rolled asphalt.

Drainage is by open ditch and/or by french drain systems as circumstances warrant, and the total earthworks involved amount to approximately 470,000 cu. yd. of cut and fill.

The existing railway bridge at Humber Head will be replaced by a new widened bridge to carry the Great North Road over the Leeds-Doncaster line north of Redhouse.

base course surfaced with 1½in. of high stone content hot-rolled asphalt.

Drainage will be piped drainage systems and/or french drain systems, according to conditions, and about 240,000 cu. yd. of cut and fill are involved in the roadworks.

470ft. Viaduct

The major feature of the Wentbridge By-pass is the crossing of the Went River Valley by means of a viaduct. This will be 470ft. in length, 78ft. wide, and 96ft. above the valley. The superstructure will consist of a three-span prestressed concrete continuous box section girder, with cantilever footpaths, supported on reinforced concrete abutments and raking legs of cellular reinforced concrete.

When completed, the main span, which will be 308ft. in length, will be among the longest in Europe. Precast concrete hinges of a type widely used in France will be provided at the ends of the raking legs.

About 18 miles of 1½in. diameter pre-stressing strand will form the main cables which are external, the cap cables over the supports being normal 56-wire cables. The total pre-stressing force to be applied to the deck is 21,000 tons.

Foundations for this viaduct are now complete, and mass footings are nearing completion. Work on one of the abutments, which has included the driving of 84 2ft. diameter piles, is well under way, and is progressing on the other.

Another bridge in the contract will be the Went Edge Road Bridge, which will carry the Went Edge Road over the bypass. It will consist of prestressed units in composite deck construction placed on reinforced concrete abutments. The square span will be 80ft. between abutments and the width between parapets will be 36ft.

Taylor Woodrow Construction, Ltd., are the contractors for the scheme, on which work commenced in October, 1959. Completion is expected by October of next year.

Wentbridge-Ferrybridge Improvement

The two-mile duplication of the existing single carriageway between Wentbridge and Ferrybridge, for which the design data is the same as that for the Redhouse-Wentbridge scheme, is now open to traffic, and is virtually complete. Work has included the construction of .65 miles of new dual carriageway with an overall width of 92ft.

Construction has been similar to the schemes already mentioned, and final surfacing was with high stone content hot-rolled asphalt on a bituminous macadam base course. Earthworks totalled 130,000 cu. yd. of cut and fill.

McLauchlan (Knottley), Ltd., are the contractors, and the cost is estimated at £255,000.

Brotherton By-pass

The Brotherton By-pass, for which design data is similar to that for the Wentbridge By-pass, will have a length of 1.01 miles together with a uni-directional link road .25 miles long leading to the A.162. The dual carriageway highway will have an overall width of 87ft. varying to 102ft. at two points where the central reservation widens to 30ft. Hardened shoulders will be provided in the margins on each side and the carriageways will also have in-situ concrete marginal strips.

Carriageway construction will be similar to that for the schemes already mentioned, but final surfacing will consist of a 2½in. thick dense tar base course with 1½in. dense tar surfacing. Drainage will be by pipe discharging into the River Aire, and also by french drains discharging into the existing Marsh drain.

The earthworks involved amount to about 204,000 cu. yd. of cut and fill, and 100,000 cu. yd. of imported fill will be needed. Work on the earthworks is now 85 per cent complete, and compaction is being carried out by 72in. rollers.

Major features of this scheme, which will cost £486,000, will be the construction of a railway bridge over the Knotley branch railway line, two overbridges, and



Artist's impression of Wentbridge viaduct

A Blaw Know road widener, which is being specially adapted and imported by Fitzpatrick and Son, the road specialist member of the consortium responsible for the motorway, will be used for laying the hard shoulders.

The motorway, which will cost about £6m., will need 100,000 cu. yd. of dry-lean concrete, 500,000 tons of shale sub-base, and 65,000 tons of hot-rolled asphalt in its construction. Bridges will account for 32,000ft. run of prestressed concrete beams and 29,000 cu. yd. of in-situ concrete.

Cubitts Fitzpatrick Shand, 455 Old Ford Road, London, E.3, are the contractors.

Redhouse-Wentbridge Improvement

Moving northwards from Doncaster along the Great North Road, the first of the several large improvement schemes being carried out is that between Redhouse and Wentbridge, at a cost of about £760,000.

The scheme consists basically of duplicating a 4½-mile length of the existing single carriageway by the provision of a new carriageway 24ft. in width. A central reservation of varying width, together with a margin 12ft. wide incorporating an 8ft.-wide hardened shoulder and in-situ concrete strips, will be provided. In addition, a length of two miles of the existing carriageway will be reconstructed.

Designed to the standards required by the Ministry of Transport, the road is based on a design speed of 60 m.p.h.; maximum gradient not exceeding 1-in-30; sight distances for traffic of 600ft.; the provision of acceleration and deceleration lanes at each side road junction; and curves with radii as large as possible

This new structure will comprise a composite deck of precast tensioned beams with reinforced concrete counterfort abutments and wing walls founded on 19in. diameter bored concrete piles. The square span will be 27ft. and the width between parapets 81ft.

An existing culvert over the Hampole Dike adjacent to the railway bridge will be extended on the west side in reinforced concrete, and founded partly on bored piles and partly on precast piles. Work also includes construction of a mass concrete retaining wall 400yd. long, along the east side of the A.1.

Work commenced in January, 1960, and is expected to be finished by January, 1962. The contractors are Geo. Wimpey and Co., Ltd.

Wentbridge By-pass

Estimated to cost £741,000, and now nearly at the halfway completion mark, the Wentbridge By-pass will be 1.85 miles long, and will have a design speed of 60 m.p.h. with gradients not exceeding 1-in-30 and with sight distances of 600ft.

It will have an overall width of 87ft. each of the dual carriageways being 24ft. wide, with a 15ft.-wide central reservation and 12ft.-wide margins on the outer edges, each incorporating an 8ft.-wide hardened shoulder.

In-situ concrete marginal strips will flank each edge of the carriageways, which will be constructed on an approved sub-base varying in depth according to the design thickness of pavement, and will comprise a premixed cement stabilised granular base 8in. thick and a 2½in. hot-rolled asphalt

a footbridge. Piling works for the construction of the railway bridge are in hand. The structure will consist of a filler joist deck, placed upon mass concrete abutments on piles and mass concrete wing walls with a square span of 28ft. and a width between parapets of 81ft.

Extension of three large flood culverts will be carried out at the southern end of the by-pass where it traverses a flood retention basin of the River Aire.

The contractors are Harbour and General Works, Ltd., and completion is expected in October, 1961.

Micklefield By-pass

To cost about £418,000, and expected to be completed at the end of this year, the 1.64 mile-long Micklefield By-pass is designed to the same standards as the Wentbridge and Brotherton By-passes.

At each end of the route a total length of .57 miles of new carriageway will be provided to duplicate the existing carriageway of the A.1.

Approximately 303,000 cu. yd. of cut and fill have been necessary for this scheme, and these works are almost complete, except at the northern end. Special features include the provision of a 6ft. diameter Armco multiplate culvert, 68 lin. yd. in length, at Sheep Dyke, and the removal of a large amount of unsuitable material of low bearing value. This material, called head, was the rubbish and filth left at the end of a glacial train, and was replaced by imported boulder fill.

The Micklefield railway bridge, to the east of Micklefield Station, will carry the by-pass over the railway. It comprises a composite deck of precast, post-tensioned beams and reinforced concrete abutments and reinforced concrete cantilevered wing walls. The square span will be 60ft. between abutments and the overall width between parapets will be 81ft.

Pavior Construction Co., Ltd., are the contractors, and work commenced in July, 1959.

Wetherby-Allerton Station Scheme

Now virtually completed at a cost of about £488,000, the scheme for the Wetherby to Allerton Station improvement and diversion basically comprised the provision of four miles of a second carriageway to duplicate that already existing. Design data was the same as for the Redhouse-Wentbridge improvement, but a considerable amount of reconstruction of the existing highway was carried out due to this road being sub-standard. Total earthworks amounted to about 132,000 cu. yd. of cut and fill.

Bridgeworks on this section provided for the existing Walshford Bridge, which carries the A.1 over the river Nidd, to be widened from a width of 60ft. to 81ft. between parapets. The bridge is an open spandrel skew arch bridge in reinforced concrete, the skew span between abutments being 101ft. The existing bridge has five arch ribs to which have been added two new arch ribs in the widened structure. Raking and vertical precast concrete piles carry the abutments.

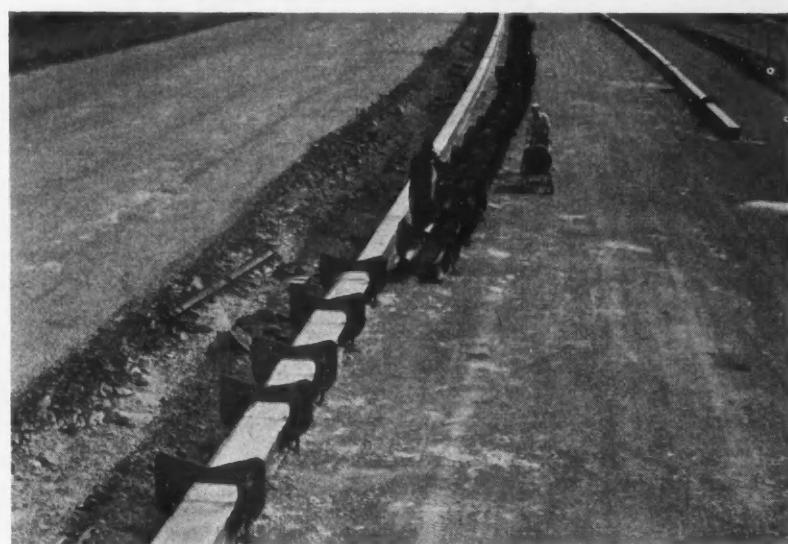
Work commenced in February, 1959, and

Design features and widths are the same as for the other improvement schemes, and the construction of the carriageways is similar to those previously described, with a final surfacing of 1½in.-thick high stone content hot-rolled asphalt on a 2½in.-thick hot-rolled asphalt base course.

Cut and fill works involve a total of 226,000 cu. yd., and the estimated cost of the scheme is £506,000.

The contractors are A. Monk and Co., Ltd.

Tenders have now been received by West



Haunching and special shuttering, showing flanges and jacks, at the Doncaster motorway

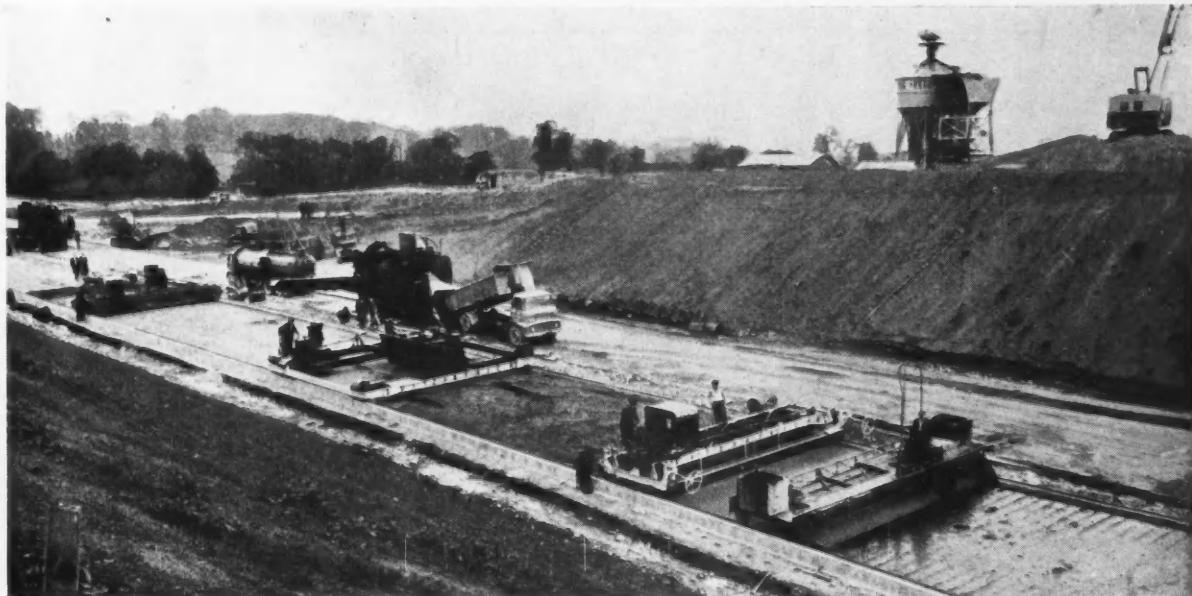
was carried out by Crowley Russell and Co., Ltd.

Allerton-Boroughbridge Improvement

Due to be completed within the next three months, the scheme for the improvement of the A.1 between Allerton and Boroughbridge provides for the duplication of the existing single carriageway by the construction of a new 24ft.-wide carriageway for a length of 3½ miles between Allerton Station diversion and Gibbet Hill, Boroughbridge. Also included are the construction of new dual carriageway highways in three diversions at Allerton Grange, Claro House, and White Gables Café for a total length of 1½ miles.

Riding C.C., and are under consideration by the Ministry of Transport, for the construction of the Aberford By-pass. Work on this section of the Great North Road improvement will start in October, and is estimated to cost £800,000.

All the schemes are being carried out for West Riding County Council, as the agent authority for the Ministry of Transport. The design and execution of the works, coupled with the solving of the many constructional problems which have arisen, has been the responsibility of a team of young highway and bridge engineers under the direction of Col. S. Maynard Lovell, O.B.E., the County Engineer and Surveyor.



Doncaster motorway concrete train at work, with a batching plant in right background

STAFFORDSHIRE MOTORWAY PLANS

FOLLOWING the commencement of work on the Stafford By-pass tenders are now being obtained by the County Council (*The Contract Journal*, July 21) for the remainder of the Birmingham-Preston motorway in Staffordshire, from Dunston to the Cheshire boundary.

The route will be 19 miles in length, and is being divided into three separate contracts, as follows: Whitgreave to Beech, including nine bridges (6½ miles); Beech to Keele, including 14 bridges (5½ miles); and Keele to Cheshire boundary, including 20 bridges (7½ miles).

Design is to motorway standards, giving an effective width of 118ft., comprising two 36ft. three-lane carriageways, a 13ft. wide central reservation, and on the outside of the carriageway paved hard shoulders for emergency stopping purposes.

Approximately 3,500,000 cu. yd. of excavation and filling will be necessary. Over 1½ million tons of material for constructional purposes will be imported, and more than 43 miles of culverts and drains will be laid.

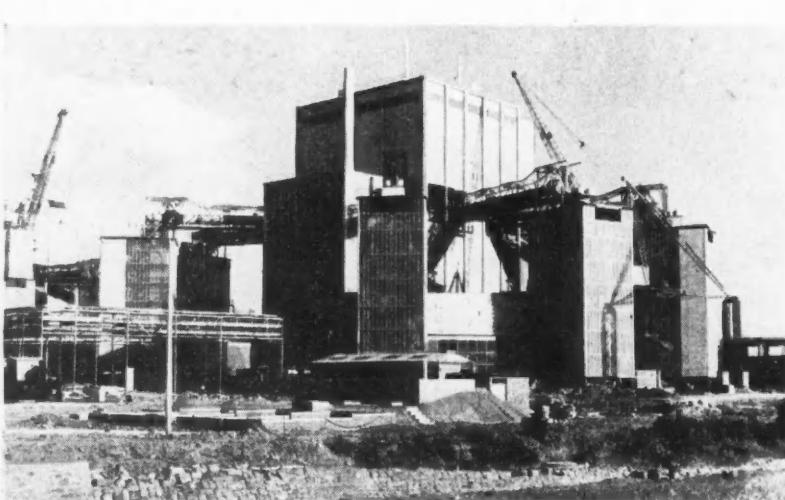
The majority of the 44 bridges will be prestressed concrete, 18 carrying the motorway over existing roads and 22 carrying existing roads over the motorway. Bridges will also be necessary to cross the various streams and watercourses, in addition to the crossing of the Stone-Norton Bridge railway line.

LIVERPOOL R.C. CATHEDRAL Frederick Gibberd's Winning Design

A design submitted by Mr. Frederick Gibberd, F.R.I.B.A., has won the architectural competition for the Roman Catholic Cathedral of Christ the King, Liverpool. This was announced last week after the 298 entries had been considered by the assessors, the Most Rev. J. C. Heenan, Roman Catholic Archbishop of Liverpool; Sir Basil Spence, president of the R.I.B.A. and Mr. David Stokes, F.R.I.B.A.

Work is expected to begin on the new cathedral in the spring and be finished within five years at a cost of under £1m. the price-limit imposed by the terms of the competition.

For his winning design Mr. Gibberd receives a prize of £5,000; Mr. C. H. R. Bailey of Kuala Lumpur receives second prize of £3,000 and Mr. Arthur Bailey of London third prize of £2,000.



Berkeley Nuclear Power Station shown in an advanced stage of completion. Under construction for the C.E.G.B. by A.E.I.-John Thompson Nuclear Energy Co., Ltd., Berkeley is scheduled for completion in 1961. The completed buildings housing the boilers are seen surrounding No. 1 reactor building

RAFT FOUNDATIONS FOR SHEFFIELD MARKET

NOw under construction at Acres Hill, Sheffield, are extensive foundations for a wholesale market. The finished market will consist of several buildings, amongst them a single-storey fish market (192ft. by 70ft.); single-storey banana ripening rooms (460ft. by 36ft.); eight blocks of two-storey fruit and vegetable stands, covering a total area of approximately 83,000 sq. ft.; two single-storey garage blocks, covering a total area of some 30,000 sq. ft.; and a central administration block with two storeys and a basement, measuring 115ft. by 60ft.

It will be seen that the foundations comprise very substantial areas of reinforced concrete. Approximately one third of the buildings are on rock, with normal spread foundations to the stanchions. The remainder are on poor fill, and for the fruit and vegetable stands, which will have the heaviest stanchion load, raft foundations are being laid with stiffening beams at approximately 15ft. centres in each direction. By spreading the loads over the entire building area, the ground pressure is being reduced to the low and acceptable figure of ½ ton per square foot. In the central administration block, three reinforced concrete staircases are included as well as foundations and floor slabs.

The work is being undertaken for the City of Sheffield. The architects are William Holford and Partners, of Bedford Street South, Liverpool, in collaboration with Mr. J. L. Womersley, F.R.I.B.A., the city architect. Spooners (Hull), Ltd., of Stoneferry, Kingston-upon-Hull, are the contractors. Octavius Atkinson are engineers for structural steelwork. The British Reinforced Concrete Engineering Co., Ltd., of Stafford are the engineers for the reinforced concrete work, and suppliers of the reinforcement.

MINISTER APPROVES OXFORD ROAD PLAN INQUIRY

The Minister of Housing and Local Government has agreed to the holding of an inquiry into the three comprehensive relief road schemes for the city of Oxford. This follows a recommendation by the City Council that the inquiry be held so as to obviate further delay on road plans.

The plans of the three schemes will be deposited by the Council for inspection, and there will also be available the various combinations of road proposals which could be selected from them.

LEAK DETECTION WITH RADIOISOTOPES

AMETHOD for detecting leaks at a rate of less than one sixty-millionth part of a cubic inch a day will be illustrated in the United Kingdom Atomic Energy Authority's exhibit at the 5th International Instruments and Measurements Exhibition in Stockholm. The method, which uses a radioisotope technique, has been developed by the Wantage Research Laboratory.

Corresponding to a cube of about one one-hundredth of an inch side, a sixty-millionth of a cubic inch appears to be a very small volume, yet it can contain seven million million atoms of the radioactive gas used in this particular application.

Since, initially, some 16,000 of these atoms would decay and emit tell-tale radiation each second, detection of their presence and calculation of the rate of leakage can be carried out with comparative ease.

To determine the rate at which leaks in sealed components would admit air or other gases, these are immersed in an atmosphere of radioactive krypton-85 gas which is raised to a known pressure for a fixed period of time. After the components have been removed from the gas, the amounts of krypton which have found their way into the objects under test are determined by measuring the emitted radiation with a counter.

For outward leakage, the component is filled to the required pressure with a known specific activity of the gas. Then, either the escaping gas is collected and assayed with a counter, or measurements are made of the decrease over a period of time in the intensity of radiation emitted from the component. The latter is the most reliable method as a leak can become temporarily blocked.

Tests of small articles such as transistors—whose life is shortened if oxygen or water vapour penetrates their containers—are best made by immersing them in the gas. Sensitivity is reported to be about 100 times better than with a helium mass spectrometer.

MOBILE TOWER CRANES Guide for Smaller Builders

Since tower cranes were introduced into this country a few years ago, there has been a fairly rapid increase in their use, particularly by the larger contractors for multi-storey work. Their adoption by smaller builders for two- and three-storey houses has been less rapid.

In a report now published the Building Research Station gives detailed information on the types of tower crane and equipment available, their operation, performance and costs. It also aims to guide the small builder in planning for optimum use of the crane. Thus it emphasises, for example, that it is important to draw up a simple programme to ensure that supplies of materials and labour always match the crane's capacity, and to consider the site layout in relation to the crane's movements.

"Mobile Tower Cranes for Two- and Three-storey Building," National Building Studies—Special Report No. 31. Published for D.S.I.R. by H.M.S.O. Price 4s. 6d. (81 cents U.S.A.); by post 4s. 10d.

A.1 DIVERSION AT GIRTFO RD Tenders Invited

In an advertisement appearing on page 888 of this issue, Bedfordshire C.C. are inviting tenders, returnable by September 30, for the construction of dual carriageways from north of Beeston to Girtford Sidings Railway Bridge, overall length approximately 1½ miles. The contract includes the construction of a new bridge and flood arches over the River Ivel.

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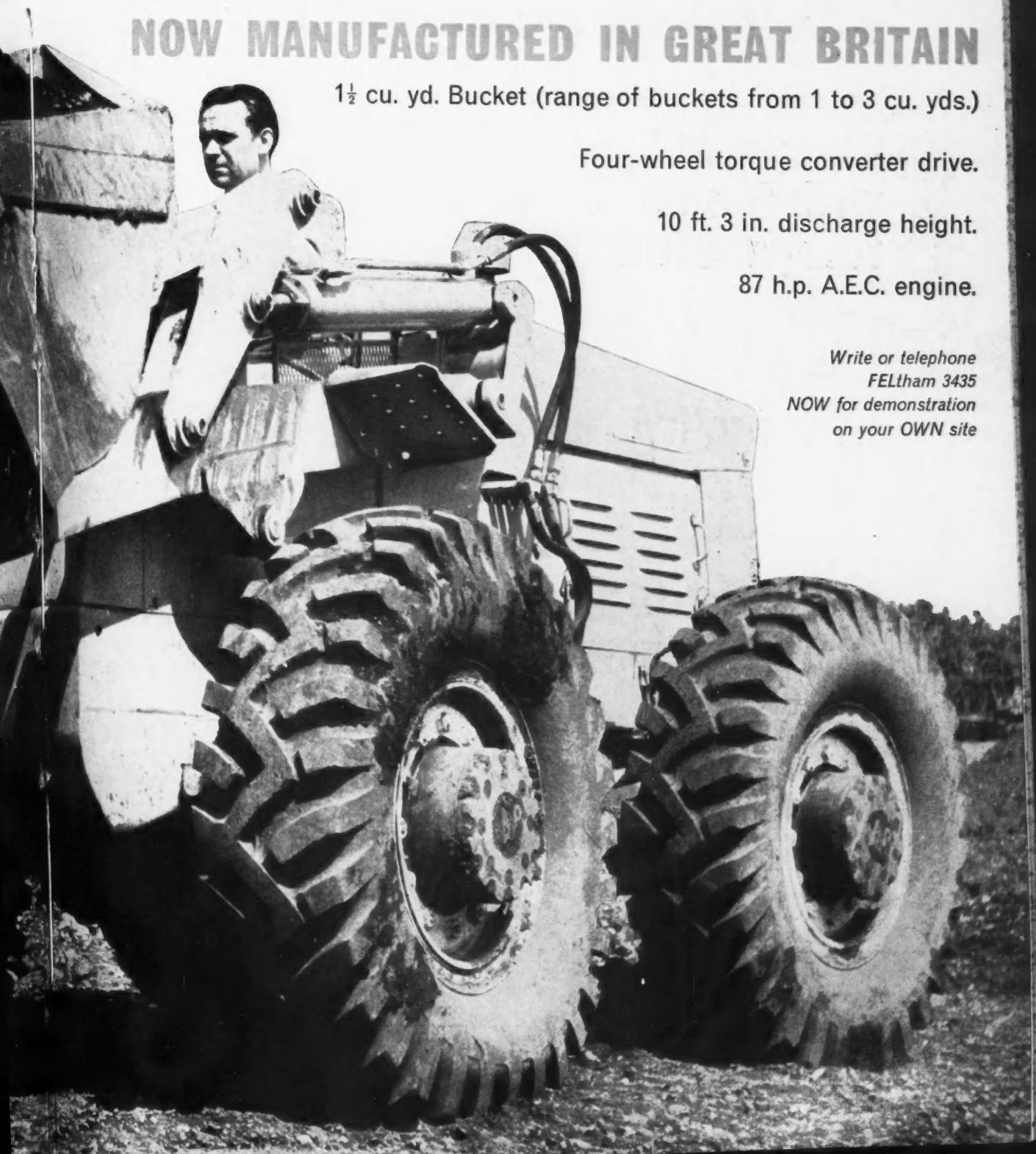
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DESIGN AND PERFORMANCE OF STRUCTURES

Work of the Building Research Station*

WITH the tendency towards higher building, and the need to keep deadweight as low as possible, the study of the properties of reinforced lightweight concrete elements has increased in importance. Special attention is being paid to the problems of adequate bond and of protection from corrosion of the reinforcement.

The work on concrete for biological shields for nuclear reactors has continued, and it is noteworthy that one of the industrial groups concerned has appointed two Research Fellows to join in the studies.

Studies of the composite behaviour of structures, and of drainage, continue to figure prominently in the Station's programme.

Shear in Reinforced Concrete

The first stage of the investigation of the shear resistance of reinforced concrete beams has been concluded with the completion of the analysis of the experimental work on beams without shear reinforcement. The analysis confirms that the present basis of design, recommended in the Code of Practice for beams without shear reinforcement, does not provide the degree of security appropriate to the load-factor method of design. A new approach has therefore been derived, which may be suitable for incorporation in a future revision of the Code; it requires the introduction of shear reinforcement for appreciably lower shear stresses than in the present recommendations, but ensures that, in the event of overloading, severe flexural damage would precede failure in shear.

Attention has now been directed to the second stage of the investigation, that dealing with the strength of beams with shear reinforcement. The problem is very complex as, in addition to the variables associated with the conditions of shear, the form of section and the properties of the concrete and the longitudinal reinforcement, the character and type of shear reinforcement is variable. In this part of the investigation, which has commenced with a study of the effect of bending on the strength of different types of reinforcing steels, particular importance is attached to obtaining an understanding of the mechanism of failure as a basis for formulating simple rules for design.

Reinforced Lightweight Concrete

The research project on reinforced lightweight concrete, started in 1957, now extends to precast, autoclaved, aerated-concrete structures as well as to those made with lightweight-aggregate concrete.

This project was initiated to provide information for developments that seemed likely to arise in the future. It has in fact stimulated interest among producers of lightweight aggregate and concrete as well as in the building industry in general, and there is already a demand for authoritative guidance in the form of Codes of Practice on this method of construction. In consequence the research project has grown in scope and has been planned for a longer duration than was thought necessary at first.

Work on concrete made with lightweight aggregates (foamed slag, sintered fly-ash) has continued in the direction discussed in *Building Research* 1957 (p.22), and *Building Research* 1958 (p.22). The investigation on bond strength was concerned mainly with beams reinforced with round bars and subjected to a large number of repeated loadings, and with the behaviour of beams reinforced with

deformed bars. These investigations are still in progress.

In the investigation of corrosion the observation of the behaviour of the specimens exposed at Beckton has continued, and additional batches were exposed both at Garston and at Beckton. A number of the beams exposed in the open at Garston, before being left on the exposure site, were loaded until considerable cracking occurred. With each such beam exposed without loading, an identical beam placed alongside is subjected to long-duration loading, with cracks opened to a maximum width of about 0.005in. on the tension side of the beam. The relationship between the size of the deformations due respectively to shrinkage and to creep in such elements is also being examined.

The durability of reinforced-concrete elements made with autoclaved aerated concrete and exposed at Beckton, where atmospheric conditions are severely polluted and generally humid, is being studied. The specimens used are made of proprietary types of autoclaved, aerated concrete, supplied by the makers, containing mild-steel bars with various types of protective coating and with various thicknesses of concrete cover. Autoclaved, reinforced, aerated-concrete building slabs (made abroad but soon to be produced industrially in the United Kingdom) are also being examined.

Where the reinforcing bars received no additional protective coating before being encased in the concrete, or where such a coating consisted only of a paint film, rusting occurred even during the autoclaving process. This was followed by severe corrosion during exposure, leading to cracking of the concrete within a relatively short time. Coating the reinforcement with certain types of proprietary materials, such as bitumen solution or cement-rubber mixes, has prevented rusting during the limited period of exposure (two years) for which evidence is at present available.

In considering results obtained during this investigation it is important to bear in mind its inherent limitations. At best these results can only represent comparative indices of probable behaviour. They reflect the severe and accelerated effects of extreme conditions of exposure, to which reinforced aerated-concrete building slabs would not be subjected in practice, without being given a large measure of additional protection.

Short-term static loading tests, on a number of reinforced aerated-concrete floor and roof slabs made in Sweden, were described in last year's report *Building Research* 1958 (p.54). The results suggest that, for these beams, an adequate load factor against collapse was coupled with a load factor against cracking that is in most cases considerably higher than that present in ordinary reinforced concrete beams subjected to short-duration static loading. The behaviour of aerated-concrete beams subjected to long-duration static loading is being examined at the exposure site at Beckton. With each beam exposed and subjected to a load equal to about 1½ times the design loading, an identically similar beam was exposed without any superimposed loading. Observations are being carried out on the cracking and deformation of the exposed beams.

Prestressed Concrete

The Station has assisted in the preparation of the Code of Practice CP.115, "The structural use of prestressed concrete in buildings," which was issued during the year. This code embodies the results of much of the experimental work on prestressed concrete carried out during recent years. While concerned with much the same field as CP.114, for reinforced

concrete, from which some of its basic content is derived, many of the features of this new code represent a considerable advance on other codes.

In the design of flexural members, the load-factor method has been introduced where possible, based on the calculation of ultimate strength and the use of a load factor that is increased as the ratio of live load to dead load increases. It is however fundamental, in prestressed concrete design, that the conditions of stress in the materials must also be considered to avoid permanent cracking and excessive deformation during the prestressing operations, during construction, and under working loads. For these conditions, therefore, design is governed by permissible stresses; for concrete in compression, these follow the trend established for reinforced concrete, but they differ for concrete in tension, in the adoption of high values for permissible tensile stresses. For the calculation of these stresses to have real meaning, proper allowance must be made for the inelastic deformation of the materials under sustained stress. The recommendations of CP.115 in this respect for concrete are based in part on the research on creep and shrinkage carried out at the Station 25 years ago, and in part on more recent measurements in the laboratory and in completed structures.

The most recent revision of CP.114 for reinforced concrete introduced the more rational basis for mix design, in which the strength of the concrete is specified, as an alternative to "nominal mixes." In CP.115, the strength of the concrete is specified without reference to "nominal mixes" and control may be exercised by statistical methods as an alternative to the method stipulated for reinforced concrete.

As experience with prestressed concrete is limited in this country to the post-war period, and many structural problems are posed in design which are not common to other constructional methods, the code encourages the use of test data in design, and thereby draws attention to the need for further research.

Concrete Shell Roofing

A reinforced concrete shell roof model of cylindrical form has now been tested to destruction, following the conclusion of other tests made to determine its behaviour under various kinds of applied load. The dimensions of the model were: length 18ft., chord width 9ft., radius 7ft. and thickness $\frac{1}{2}$ in.; it was provided along the longer edges with downstand edge beams 12in. deep and $2\frac{1}{2}$ in. wide, and had 2in. thick solid slab-type end frames. The shell proper was reinforced with a mesh of steel bars top and bottom and the main reinforcement of each of the edge beams consisted of two $\frac{3}{4}$ in. diameter mild-steel bars near the lower edge.

The applied load, including the weight of the loading gear, was distributed over the surface of the shell and along the edge beams in such proportions as to represent increasing multiples of the dead load of the roof. Strains were measured at a number of places by means of Galileo lever-type strain gauges, and deflections were measured with dial gauges and sliding gauges. The shell, having previously been subjected to various loadings and to the effects of shrinkage, already had a number of cracks. A record was kept throughout the test of the opening of such cracks and of the incidence of new ones.

Failure occurred by yield of the main reinforcing bars in the bottom of the edge beams at mid-length of the shell, the first bar at a total load of 55,000lb. and the fourth at 74,000lb. After this the load could not be further increased, the shell continuing to deflect at this load with

*Extracts from *Building Research*, 1959. Published for D.S.I.R. by H.M.S.O. Price 7s., by post 7s. 6d.

considerable change in the shape of the transverse cross-section. There were no signs of buckling due to longitudinal compressive stresses, the maximum values of which were of the order of 700lb. per sq. in. only.

After the lapse of one month, strain-hardening and ageing of the steel had produced an increase in the yield point such that it was possible to increase the load on the shell to 80,000lb. before further yielding of the main bars was initiated. There were still no signs of buckling of the shell. Immediately after reaching the new yield there was incipient collapse of one corner of the shell proper, due in the first place to a progressive loss of the shear resistance along the junction between the shell and the end frame, the shell tearing away as the diagonal tension—diagonal compression mechanism broke down. An earlier shell having failed in transverse bending, each of the three possible major methods of failure of this type of shell has now been encountered.

A National Building Study Research Paper on the whole of the Station's work on model shells is being prepared.

Concrete Structures for Nuclear Reactors

The types of nuclear reactor at present being built for power production are enclosed in massive concrete structures provided primarily for shielding purposes. Measures are taken to limit the temperature rise in the concrete during operation of the reactor, for example, by cooling or by the provision of an inner, steel thermal shield. It is likely that the future trend will be towards higher operating temperatures and towards additional utilisation of the concrete structure, for example, for containment or as a pressure vessel.

During the design and construction of the earlier power reactors, it was apparent that much information was needed about such important effects in the concrete structure as those due to temperature, drying shrinkage, creep and radiation. The need for such information is increasing, and the Station has undertaken a research programme in collaboration with the U.K. Atomic Energy Development and Engineering Group. The programme has been in two parts, a study in the laboratory of the relevant properties of concrete, and observations on actual shields at Calder Hall and Chapelcross. The latter observations have been reinforced by more limited instrumentation installed in shields at Berkeley and Bradwell, in collaboration with the Central Electricity Generating Board and the consortia concerned.

The observations on the full scale are necessarily of a long-term nature, and it was only early in 1959 that the first of the reactors instrumented (that at Calder Hall) became operational. The observations at that site show that little drying of the concrete has as yet taken place, and that the temperatures in the concrete during operation are rather lower than had been at first expected, and certainly lower than the peak observed local temperature of 132 degrees F reached during construction and due to hydration of the cement. While thermal stresses in the shield due to operational temperatures appear likely to be low, it remains to be seen whether the moderate temperature gradients reached will materially accelerate the drying of the shield.

In the laboratory, two main investigations are at present in progress, one on temperature stresses and the other on moisture transfer and shrinkage effects. Leading on from these it is hoped to investigate combined effects and to introduce the effects of creep. After an initial delay, due to the need to complete the instrumentation of the full-scale shields while the opportunity was available, the laboratory studies are now well under way. The detailed investigation will utilise mainly a local river ballast aggregate, with some additional tests with limestone and whinstone and such heavy alternative materials as barytes, ilmenite and magnetite.

In developing the Station's programme, emphasis has been laid on the need to link the results of small-scale investigations with observations of behaviour on the full scale. The programme has now been substantially reinforced by a research contract with Taylor Woodrow Construction, Ltd., in which, initially, the main emphasis will be on the development of model techniques for the study of factors affecting shield design. This firm was responsible for the design and construction of the civil engineering work at Hinkley Point and a valuable feature of the joint programme will be the possibility of linking observations on the model scale (for example at 1/20 and 1/10) with observations on the full-scale structures at that site. The firm has seconded members of its staff to work at the Station as Research Fellows.

The Station has collaborated with the Cement and Concrete Association and the U.K.A.E.A. in radiation tests at Harwell on small specimens made with various cements and aggregates. These tests are not yet complete. The Station is also collaborating with the U.K.A.E.A. in planning radiation tests on prestressing wires and on concrete specimens at Dounreay.

The Station is also advising the U.K.A.E.A. on problems concerning the dimensional stability of the large concrete monolith supporting the magnets of the 7 GeV proton synchrotron now under construction at Harwell. Owing to the advanced state of construction, it was necessary to drill holes for the insertion of thermocouples and moisture gauges. Here again, little drying has taken place during construction, and it will be interesting to observe whether the more exposed upper "flange" will dry significantly faster than the lower. Distortions of only a fiftieth of an inch would be significant for the operation of the machine.

Steel Frames and Composite Action

As steel-framed buildings become higher, and their claddings at the same time frequently become lighter, the inadequacies of methods of design that consider only bare frames become increasingly apparent. This is true not only of traditional "pin-joint" methods but also of more recent "rigid-joint" methods, whether elastic or plastic or a combination of the two. The chief shortcomings of a bare-frame approach are that:

- (a) Tall multi-storey steel frames are inherently unstable at high loads and would therefore, if left to themselves, collapse before the collapse load predicted by even modern theories of plastic design is reached and, what is perhaps more important, there is much less warning of failure as a result;
- (b) the true loads acting on the frame are unknown, even when the loads on the building are known (the accuracy of frame design can obviously never exceed the accuracy with which the loads, transmitted from the points of application on the floors or walls to the frame, are known);
- (c) there is a very marked difference in behaviour between tall frames that are free to sway sideways and those that are not.

The original assumption in framed construction was that the building as a whole is, structurally, no more than its frame. This does not reflect present realities. It is now well known that it is not only a grid of beams that carries the floor loads to the columns, and not only a column-and-beam frame, rigid or otherwise, that resists horizontal loads and tendencies to instability. Floor slabs contribute largely in the first case, while many tall building frames lean heavily on the infilling walls when the wind blows. The study of the various forms of interaction that are here involved has for some years been a major preoccupation of the Station. Composite action, as it is called, is really a study of the whole structure, as far as it is possible, in preference to a specialised study of

parts of the structure, e.g., the "frame," with assumptions, which are often arbitrary, regarding the interactive forces.

The part played by walls in resisting sideways has already been studied in racking-load tests on single framed panels. An extensive series of tests on small-scale models is now being undertaken to learn more about it. In these tests, internal panels (important in multi-storey buildings) are being studied, as well as single panels of different proportions.

Alongside analytical studies and laboratory tests on the interaction of floor slabs and beams, an extensive series of strain measurements was made some years ago on some of the steel beams of the new Government Offices, Whitehall Gardens. The tests were briefly reported in 1955 and a more detailed account has now been prepared, presenting a much more comprehensive selection of the observations. These include many illustrating the long-term build-up of stress as construction proceeded and constituting, as far as is known, the first comprehensive record of this type to have been obtained. Other measurements indicated the stresses induced by test live loads. Comparison of the latter stresses (which had, perhaps, to be kept within the elastic limit) with stresses calculated on the basis of a simple theory of composite action of the beams and slabs, analogous to that now used in designing reinforced-concrete T-beams, showed a close correlation. From this it is concluded that their concrete encasements and bands of the adjacent slabs acted with the steel beams in carrying the live loads to the stanchions, with consequent reduction of stress in the beams.

In attempting to reduce the observed interaction of slabs and beams to design rules suitable for a Code of Practice, there has always been the problem of the degree of plasticity that could be introduced into the design. An intensive study has therefore been made of what have become known as "fracture-line" or "yield-line" methods of slab design. It appears that, with care, they will lead to rapid and reasonably (but not certainly) safe methods of design, but that they are likely to result in some waste of steel. Indeed it appears that modern elastic design of beams and slabs working in unison could actually be more economical in reinforcing steel (suitably placed). Furthermore it has been discovered that the internal floors of buildings, restrained as they are from lateral expansion by the surrounding floors, may have collapse loads many times those predicted by simple plastic theories because of compressive forces in the slab. It is clear that the restraint offered by floors and beams working in unison needs careful study.

Where the floors and walls, or bracing, can be used to eliminate any possibility of a multi-storey building collapsing by swaying sideways, it is possible to save much steel by application of modern methods of design of rigid-jointed frames. A joint committee of the Institution of Structural Engineers and the Institute of Welding is studying, alongside other methods, recent publications of the Station devoted to this kind of design, and it is hoped shortly to issue definite recommendations.

Where there is little restraint from the cladding against the sideways of tall buildings, and where as a result instability will be encountered, it becomes almost necessary to use the modern electronic computer to check the engineer's first designs. A programme has therefore been written for the Ferranti Mercury computer which will deal with rectangular frames of up to 100 joints, producing, in one run, a complete record of the state of the frame from working loads up to the load at which the frame collapses. Account is taken of the fact that in any member the steel may be stressed beyond its yield point before collapse of the frame as a whole occurs. This programme therefore combines the modern studies in the fields of plasticity and of elastic instability, and is particularly necessary for the modern kind of lightly clad skyscraper.

CO-ORDINATION IN BUILDING

Building Research Station's Hatfield Demonstration

THE recent completion and handing over to Hatfield Development Corporation of seven houses designed by the Building Research Station marks the first stage in a demonstration of building co-ordination by the use of preferred sizes.

Comprising the Building Research Station's contribution to the European Productivity Agency project of modular co-ordination, the scheme consists of terraces of three traditional brick houses and four unconventional dwellings with 9in. brick party walls and timber infill panels at front and rear.

Preferred Sizes

After long investigation of the 10cm./4in. module, which had been proposed in the E.P.A. project, the Building Research Station decided that such a single-based module could not meet the requirements of the industry in general, as it did not accommodate the smaller economic increments of thickness and structure, and at the same time provided too many sizes for the larger dimensions, giving neither simplicity nor co-ordination in practice.

The solution to the problem, it was felt, lay in co-ordination rather than modularity, and to this end the Research Station developed a system of preferred sizes with a high degree of relationship between each other, allowing both additive and single components to go together with a minimum of wasteful cutting. At the same time it was important from a national economic point of view, to take into account the existing sizes of manufactured products.

For the Hatfield dwellings, first preference numbers of 1½in., 3in., 4½in., 6in. and 9in. etc., were used as sizes for components and as dimensions in design. Other numbers, such as 10½in., 19½in. and 21in. etc., were a second preference, and were used in design, but only in special circumstances.

The preferred component sizes were capable of achieving in combination very many other dimensions, and these were termed increment dimensions. It was axio-

matic that a size exercising a strong dimensional influence should be of first preference.

Work commenced on the houses on January 1 of this year, and with the completion of the foundations, the internal carcass dimensions were set out physically on the slab, from these markings the bricklayers setting back ½in. It was specified that brick and joint should be 9in. in length, the bricks being made to a minus tolerance.

Such bricklaying to dimensions resulted in much easier working and a great saving in time and waste with the following trades. All carcass timbering was pre-cut to length and fitted exactly over the brick-work, literally turning the carpentry work into an assembly job.

Labour Reaction

Initially, the reaction of the bricklayers and other operatives was not good, but when the proposals had been explained to them and their first natural bias against using new methods of working had been overcome, the system of working to dimensions, once experienced, was received with general enthusiasm.

Some problems were met during the construction of the houses, such as the instinctive attempts of skilled workers to adapt conventional methods of working to the system of dimensional co-ordination. Other problems arose with a few standard components that had not been specially sized, from the practice, traditional with British manufacturers of building materials, of making their products slightly oversize.

This latter fault helped to demonstrate an essential factor in building co-ordination, namely, that only minus tolerances can be permitted in manufactured components.

The seven houses, which were provided with garages and stores, were completed within six months, one month ahead of schedule, despite delays caused by bad weather. A further stage in the use of preferred sizes provides for the design by the Building Research Station, for erection at Hatfield, of three bungalows using a lightweight precast concrete panel, and a four-storey block of flats to demon-

strate the use of the system in a framed structure.

Let out to tender in the normal manner, the contract for the seven houses was carried out by John Mowlem and Co., Ltd., London, S.W.1.

Table of Preferred Sizes

1½	3	4
4½	6	8
7½	9	
(10½)	12	
13½	15	16
	18	
(19½)	(21)	20
22½	24	
	27	
	30	32
(31½)	(39)	40
	(42)	
	45	48
	54	(52)
(58½)	60	64
67½	72	
	81	80
	84	
(94½)	90	
	96	(104)
	108	
(117)	120	
121½	(126)	128
	135	
	144	
	(156)	160
162	(168)	
(175½)	180	
	(189)	192
(202½)	216	(208)
	240	

In this Research Station table of preferred sizes, figures to the right of the line are 4in. modular sizes. The bracketed numbers are of second preference.

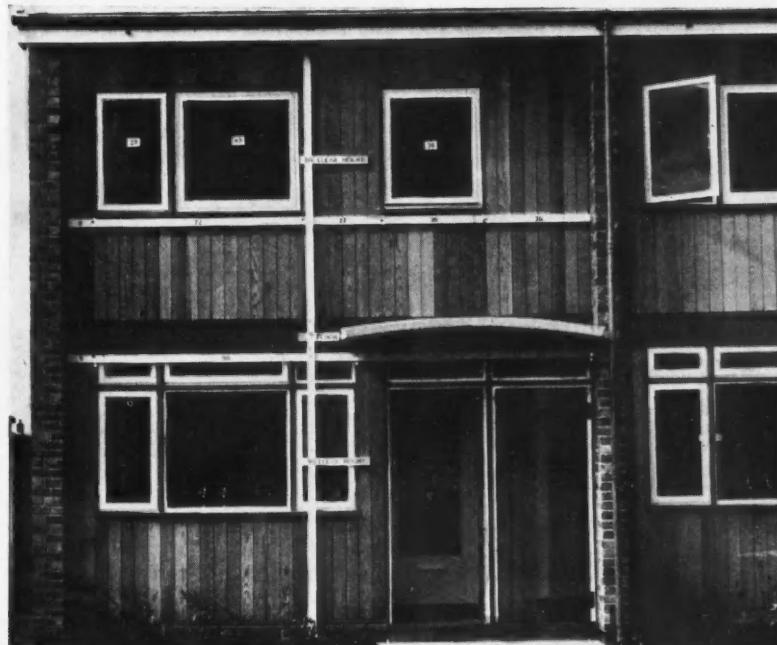
A VISIT TO ITALY

A visit to Italy for architects and engineers has been arranged by the Joint Committee on Structural Concrete to inspect old and new architectural and structural work of outstanding interest in that country. The visit will take place from Sept. 17-25.

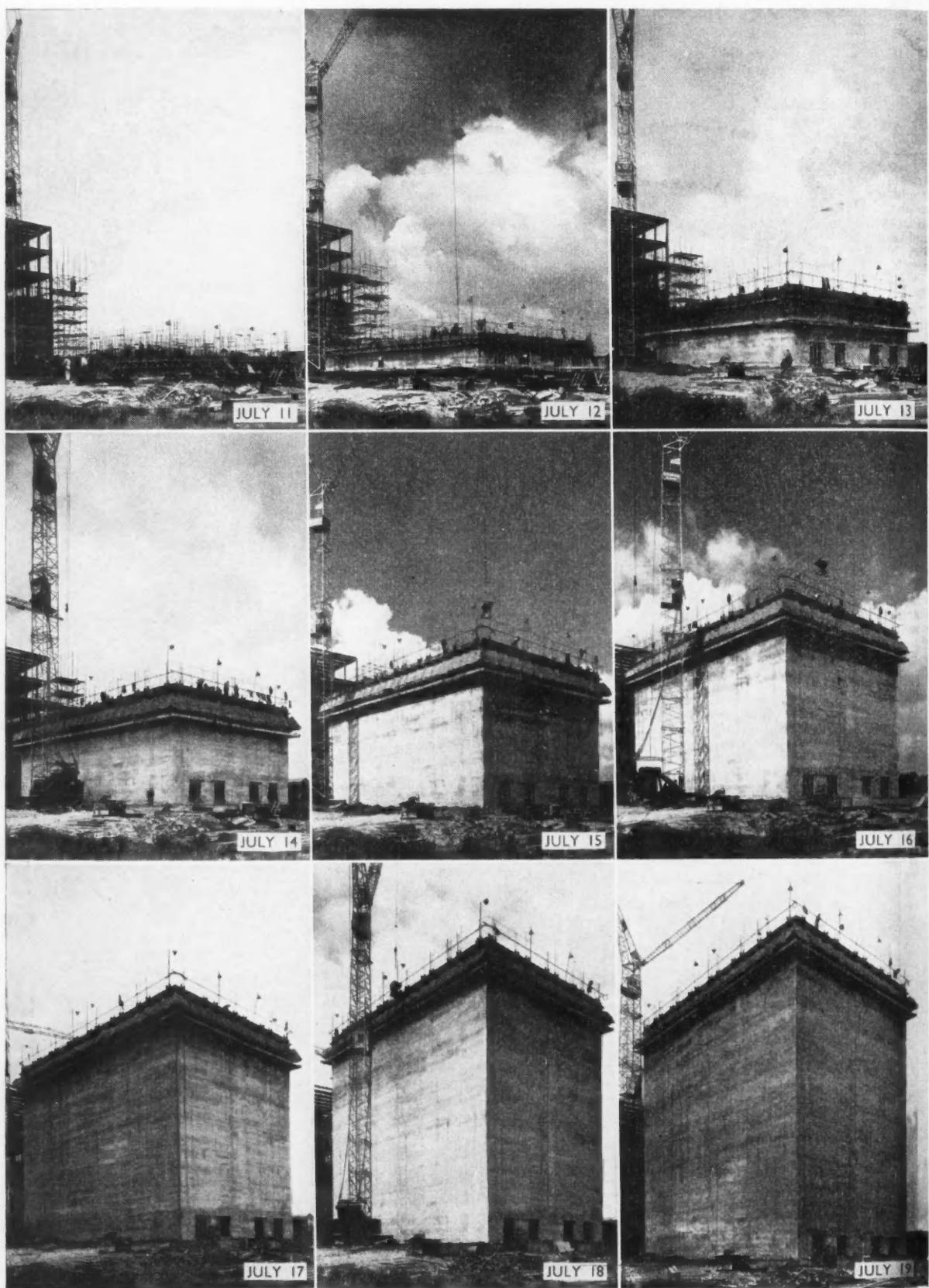
The estimated cost of the visit including air, coach and train fares, hotel accommodation and all meals is £120. Applications for places on the visit should be made to the Secretary of the Committee, at Terminal House, Grosvenor Gardens, London, S.W.1, as soon as possible. Ladies will be welcomed.

MASTER PLAN FOR HEMEL HEMPSTEAD

Details of a new master plan for Hemel Hempstead have been announced by the Development Corporation. The industrial area is to be extended and the ultimate population is to be expanded from 60,000 to 80,000. A new neighbourhood called Grovehill is to be built to the north-east of the town with a population of 9,000 and covering 400 acres.



Timber houses with brick crosswalls. Preferred sizes are marked on the white rods and windows



This series of photographs shows the day by day progress made on the new silo at Gainsborough. The maximum lift in a 12-hour shift was 7ft. 6in.

SLIDING SHUTTERING BUILDS 120FT. HIGH SILO IN TEN DAYS

THE speed with which large storage buildings can be constructed by the sliding shuttering system is now renowned, but it is doubtful whether many faster constructions have been achieved than that undertaken recently on a 120ft. high silo at Gainsborough, Lincs., especially when it is taken into account that not merely the shell of the building was "slide" erected but also the walls of the bins.

There are 28 bins, each 14ft. square, and in only 10 days the superstructure was built from foundation to roof level, entailing the placing of 3,300 cu. yd. of concrete. Some 24,000 sq. yd. of shuttering were required.

Part of the new mill plant of Spillers Limited, the silo was designed specifically for erection by this method by Oscar Faber and Partners, Torrington House, Holywell Hill, St. Albans, Herts. The main contractors are Bierrum and Partners, Ltd., Imperial Drive, Harrow, Middx.

The contract was signed in early May of this year and work began on the site about two weeks later. The first task was the laying of a 3ft. raft foundation of reinforced concrete on to existing piles, which had been driven 11 years before when the scheme was begun but halted by licensing restrictions. Foundation work took about five weeks and a further three weeks was taken to assemble the formwork and attend to details in preparation for the slide, which began at 8 a.m. on Monday, July 11.

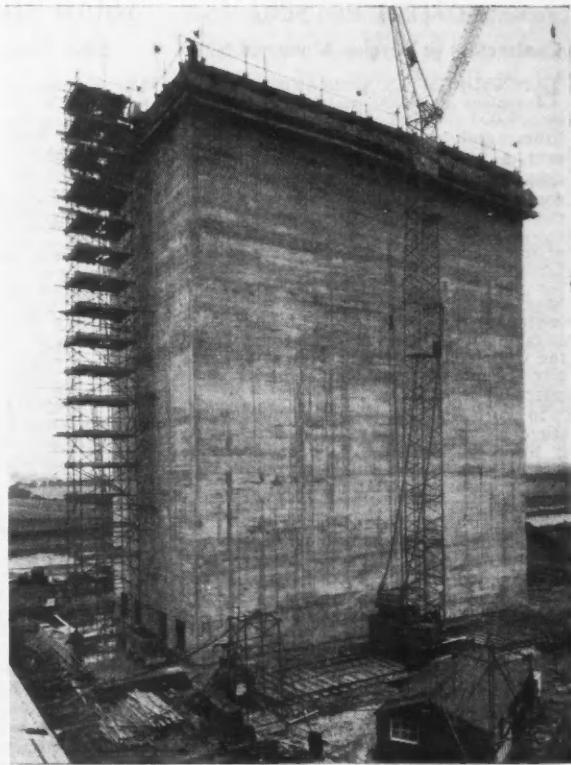
The sliding system used was the

Prometo method of Swedish origin and operated in this country by William Thornton and Sons, Ltd., Liverpool. It comprises an inner shutter with framework and working platform, attached to an outer shutter. Hydraulic jacks are interconnected from a central pump with pressure piping and the whole system is electrically operated.

The bins are arranged, seven by four, and the walls throughout are 8in. thick. After wooden formwork had been built to allow for the conveyor apertures, reinforcement was placed up to the height of the inner shutter, the outer shutter was connected and concreting commenced.

Work was continuous on the lift, two 12-hour shifts—from 8 a.m. to 8 p.m. and from 8 p.m. to 8 a.m.—being operated. The maximum lift in one shift was 7ft. 6in. Measured in 24 hours the progress was as follows:

1st	24 hours	10ft.
2nd	" "	21ft. 3in.
3rd	" "	32ft. 3in.
4th	" "	44ft. 7in.
5th	" "	57ft. 10in.
6th	" "	70ft. 10in.
7th	" "	84ft. 4in.



South-west elevation after completion on July 21

8th	"	97ft. lin.
9th	"	109ft. 6in.
10th	"	completion.

The lift was completed at 7 a.m. on Thursday, July 21. It proceeded smoothly without a hitch or breakdown in any of the equipment, despite a severe thunderstorm during the night of July 16.

Concrete was mixed on site by two Winget $\frac{1}{2}$ cu. yd. mixers with weighbatchers, served from four Portasilos totalling 100 tons capacity. The specified mix was 112lb. of cement to 2 cu. ft. of sand to 4 cu. ft. of aggregate, the strength requirement being 3,300lb. at 28 days. The Cement Marketing Company, Ltd., supplied the cement, and Hartsholme Sales, Ltd., the sand and aggregate.

All the concrete was placed by a rail mounted tower crane, working with a 1 cu. yd. skip at a normal cycle of three minutes.

The walls were finished off as the slide progressed. For this purpose a platform was suspended 6ft. below the shuttering on the outside walls and similar platforms were suspended inside each bin.

Hellibond $\frac{1}{2}$ in. dia. high tensile reinforcement was used throughout; placed at 12in. centres on both faces. A total of 225 tons of reinforcement is incorporated in the silo and its foundations.

The shuttering was so designed that when the slide was completed it could be secured by bolts to the walls and the jacks and yokes removed. It is now being used as a working platform for construction of the reinforced concrete roof which will support a conveyor house. When the roof has been laid it will be finished off with a parapet wall and the shuttering will be lowered to the ground and dismantled.

Following this operation, the bin bottoms will be inserted. These will consist of precast concrete slabs on structural steelwork, supported on mass concrete sleeper walls. The whole of Bierrum and Partners' contract is scheduled for completion in October.

To complete the building an elevator tower is to be built on the south-west elevation and the conveyor house is to be erected on the roof.



View of the formwork before the slide

SCOTTISH HOUSING

Contractors to Develop Municipal Sites

EDINBURGH CORPORATION is to replace its 4,000 prefabs on 16 sites by 9,000 flat homes. Cost is £18m., and the work will be spread over a number of years. The various sites are being allocated to major contractors who will be responsible for the employment of architects and surveyors and for the complete redevelopment of the prefab sites. George Wimpey and Co. are to carry out work at Muir House site and James Miller and Partners, Ltd., have been given the Longstone site. Other contractors are being invited to undertake suitable sites. The development follows the complete use of free sites within the city boundaries making redevelopment internally a necessity.

In Port Glasgow, too, the problem of space has become acute, and here again it has been proposed to redevelop the internal area by demolition and rebuilding. The Scottish Special Housing Association has been appointed for this work, and will submit two schemes for internal areas. A third scheme is at present under consideration by a Glasgow development company which proposes the redevelopment of the main shopping area from Princes Street town hall to the railway station.

FIVE-YEAR REPORT GIVES COMPENSATION DETAILS

Details of compensation paid between January, 1955 and December, 1959, under the terms of the 1954 Town and Country Planning Acts, are given in a White Paper presented recently by the Minister of Housing and the Secretary of State for Scotland.

The system of compensation to owners whose land has suffered loss of development value as a result of current planning restrictions provided broadly for payments on account of restrictions imposed between the passing of the 1947 Town and Country Planning Acts and the coming into operation of the 1954 Acts and payments on account of restrictions imposed after January 1, 1955.

METHOD IN BUILDING Conference at Ewell Technical College

Under the theme "Method in Building" the Kingston Area Productivity Association are holding an afternoon and evening conference at Ewell Technical College on October 18, 1960. Mr. K. C. M. Symons, of the Advisory Service for the Building Industry, will deal with method study and allied subjects.

Programmes and ticket application forms may be obtained from the Secretary of the Association, Miss D. Sulston, F.S.C.T. at Ewell Technical College, Reigate Road, Ewell, Surrey. The conference fee including tea is 25s.

HIGHER NATIONAL CERTIFICATES IN CIVIL ENGINEERING

Rules 107, which set out arrangements and conditions for the award of Higher National Certificates in Civil Engineering have been revised to include provision for participation in the scheme by the Northern Ireland Ministry of Education.

There are no major amendments to the Rules.

Attention is drawn to the inclusion in paragraphs 16 and 17 of alterations which bring the Rules up to date in the light of the recommendations contained in the Report of the Working Party on National Certificate Procedures.

Copies of Rules 107 may be obtained from H.M.S.O. Price 6d.

YOUTH SERVICE BUILDINGS

£4m. Programme Announced

TO increase the momentum of building for the Youth Service, the Government have decided to authorise a building programme for the year 1962-63 of £4m. This is one of the new developments for the expansion of the Youth Service announced by Sir David Eccles, Minister of Education, in a circular to local education authorities.

The circular says there has already been a "substantial" response from local education authorities and voluntary bodies under the £3m. programme for the two-year period 1960-62, announced by the Minister with the publication of the Albermarle Report last February.

The Development Group of the Ministry's Architects and Building Branch, in collaboration with the Bristol local education authority, are in the early planning stages of a general purpose youth club.

SHORTER WEEK FOR BRICK WORKERS' ELECTRICIANS

Workers in the electrical contracting industry are to have their working week reduced from 44 to 42 hours without loss of pay from the beginning of November, under an agreement reached between the National Federated Electrical Association and the Electrical Trades Union.

This brings working hours in private electrical contracting firms into line with those in the contracting departments of the nationalised electricity supply industry.

Brick Workers

Brick workers are also to have a shorter week and a higher basic rate of pay from November 7. The Pressed Brick Makers' Association have agreed with the unions for the working week to be reduced from 44 hours to 42. The basic rate will go up from 4s. 1d. an hour to 4s. 3d.

MINISTRY GRANT FOR WIDENING OF OXFORD STREET

Mr. Ernest Marples, Minister of Transport, has made a grant of £178,000 towards London County Council's £237,000 scheme for the widening of Oxford Street between Holles Street and Regent Street.

This scheme will provide for the widening of the carriageway from 46ft. to 55ft., with an arcade over the footway along the frontage of Messrs. Squires and Wells, Ltd.

This widening of the carriageway will provide an extra lane for eastbound traffic and will reduce the delays which frequently occur at Oxford Circus.

HURST PARK DEVELOPMENT

Public Inquiry

A plan for the large-scale development of Hurst Park racecourse is to be the subject of a public inquiry to be held at the County Hall, Kingston-upon-Thames, Surrey, on September 26.

Hurst Park Club Syndicate, Ltd., have applied for permission to build houses and buildings and to lay out open spaces, sports grounds and school playing fields on the racecourse and car park.

Wates, Ltd., are the contractors to the Hurst Park Club Syndicate.

Road Research Technical Paper No. 48, "The Assessment of Priority for Road Improvements," by D. J. Reynolds, referred to in our editorial, is published for the D.S.I.R. by H.M.S.O. price 2s. 6d.

Late Construction News

CHELMSFORD OFFICES. — Essex River Board have been recommended to accept the £289,734 tender of Holland & Hannen and Cubitts, Ltd., 1 Queen Anne's Gate, London, S.W.1, for the erection of a five-storey administration centre at Springfield Road, Chelmsford.

£4½M. BOARD MILL. — Tenders will be invited later in the year, and work is expected to commence in January, on major extensions to the Purfleet, Essex, mill of Thames Board Mills, Ltd., estimated to cost £4½m. Site preparation, which is being carried out by John Laing and Son, Ltd., London, N.W.7, commenced last week. The consulting engineers are Frederick S. Snow and Partners, 144 Southwark Street, London, S.E.1.

HARROGATE LABORATORIES. — A contract has been secured by George Wimpey and Co., Ltd., London, W.6, for office-block extensions and experimental laboratories at Harrogate, for the fibres division of Imperial Chemical Industries, Ltd. The cost is estimated at £230,000.

RENFREWS. DEVELOPMENT. — Work is expected to start next spring on the development of the site of Castle Wemyss, Wemyss Bay, by John Lawrence (Glasgow), Ltd., 137 West Regent Street, Glasgow, C.2. Plans provide for demolition of the castle and erection of about 500 luxury flats, villas and bungalows.

MANSFIELD HOSIER FACTORY. — Work began this week on erection of the largest single-unit timber-built factory in the country, at Southwell Road West, Mansfield, for Foister, Clay and Ward, Ltd., at a cost of about £100,000. Timber units are being supplied by Vic Hallam, Ltd., Nottingham, and the main contractors are Messrs. Stuart, Nottingham. The architect is D. A. Matthews, Leicester.

VOLTA DAM TENDERS. — Tenders will be invited in the near future by the Ghana Government for the civil engineering works, including a dam and powerhouse, involved in the Volta River project.

£350,000 CATFORD SUPERMARKET. — Demolition has been completed and piling will commence in the next few weeks for the erection of shops, car park, offices and a supermarket at the Eros Cinema site, Brownhill Road and Rushey Green, London, S.E.6, for E. Alec Colman Group and Bernard Sunley Investment Trust, Ltd. The architect is H. Owen Luder, 79 Regency Street, London, S.W.1; the consulting structural engineer, Gordon Rose, 80 Victoria Street, S.W.1; and the quantity surveyor, C. R. Wheeler, 70 Victoria Street, S.W.1. Bernard Sunley and Sons, Ltd., 25 Berkeley Square, W.1, are the contractors. The cost is estimated at £350,000.

BRITISH CONTRACTORS' CREDIT DIFFICULTIES

In general, work of the sort in which Contractors John Brown are interested is being offered in fair volume overseas, says Lord Aberconway, chairman, John Brown and Co., Ltd., in his statement accompanying the accounts for the year ended March 31, 1960. Much of it, however, requires credit, and many foreign competitors seem able to offer longer terms than those of British contractors can arrange, or for which insurance cover can be obtained. This puts British firms at a disadvantage in seeking overseas orders.

SHREWSBURY FACTORY ESTATE PLAN

A large new factory estate at Harlescott, Shrewsbury, is proposed by the Brixton Development Co., Ltd., London, who have applied to the town council for planning permission.

A total of 17 factories is planned on a 20-acre site, of which 13 will each have a floor area of 18,000 sq. ft.

John Sumner's Notebook . . .

THE Editor of that interesting and informative journal *The British Clay-worker* has taken me to task following my comments on the brick supply position and the reply given by the Minister of Works in a recent Parliamentary discussion on the brick shortage. He describes my comments (and he admits that he had to hunt pretty hard to find a printable and Parliamentary adjective) as puerile and infers that I am unmindful of the fact that the brickmaking industry, like all large basic industries, has to plan its activities on the basis of foreseeable demand.

Of course, I could argue this topic all night with anybody and get nowhere in the process. All I have in mind now and all I had in mind when I wrote my original note is that there are insufficient bricks for the building industry to do the work it now has on hand, that the estimated increase in production by the brick manufacturers is unlikely to get anywhere near meeting the demand within the next year, or even longer, and that the solution to this difficulty can only rest with the brick manufacturers, who must simply manufacture a lot more bricks than they are manufacturing at the moment.

Naturally it is difficult to forecast ahead, but brick manufacturers are not the only people who have to do this. Contractors have to do it. Firm prices for two years ahead are demanded (not requested) for jobs costing hundreds of thousands of pounds. Even the time limit is extended if the building owner and his architect think there is a reasonable chance of getting away with it. What would happen if the contractor said "I'm sorry, I can't commit my labour and finance to this job for the next two years; a much better paying proposition may come along before then and where would I be?" If contractors are expected to have a bit of confidence in the future (and I personally think they have every reason to have) then surely it is not too much to expect those who supply them with materials, notably the brick manufacturers, to have similar confidence.

It is not going to please the brick manufacturers to read this, I know, but every time the building industry has got moving again after a curtailment of building activity by Government edict it is a shortage of bricks as much as of anything else that has held the industry back and prevented it from making the progress it could have made. While that situation remains, and it is with us now, I feel obliged to do all I can to encourage a little more forward thinking in this vital department of the building materials industry—whether my remarks are considered to be puerile or not.

Incidentally contractors offering firm-price tenders should not fail to note the reduction in the working week and the increase in basic rates recently agreed upon in the brickmaking industry. Does this mean that before long contractors will be paying more for the bricks they can't get?

EARLIER this year I remember reading some remarks by Mr. Woodbine Parish on the "casualness" of employment in the building industry, in the course of which he urged building firms to look into the question of adopting policies which would "progressively decasualise" a substantial percentage of building workers.

Some firms already have arrangements whereby the worst effects of the basically

casual nature of building jobs are minimised. I have before me some interesting details of what is described as the Cubitt Register.

Recognising the special conditions in the building industry the directors of the Cubitts group of companies introduced the Register Scheme just over three years ago. Men can be invited to join the Register when they have worked on the company's sites for three years. They are given a written pledge that the aim is to employ them continuously. They are also guaranteed adequate warning if this is impossible, and are helped by way of introductions to other firms should it prove necessary. Other material benefits are that the men receive weekly payments in the case of absence through sickness or accidents, and extra pay at holiday times. An accident insurance is included.

Does the scheme work well? The first answer to the question is that membership of the Register is valued by the men invited to join it on the recommendation of their foreman, contracts manager and departmental manager. The second answer is that when there has been difficulty in finding suitable work for registered men in a particular area other employers have been pleased to engage them and help to make their employment continuous. The third answer is that there has been no criticism of the ideals behind the scheme from the firm's workmen and staff, other employers or from the trade union officials.

Well done, Cubitts!

ONE would suppose that to top-flight building contractors enjoying their summer vacations the announcement by the Building Advisory Service of a director-level only Management Conference for the heads of building firms to be held in London on October 11 and 12 next is rather far-away stuff—something that can be safely lodged by secretaries in the pending file and only unearthed two days after the conference is over.

I learn, however, that many inquiries and bookings have already been made. Mr. C. A. Francis, the head of the Advisory Service, who is organising the conference on behalf of the N.F.B.T.E., tells me that he expects to have to turn away applications some time before the conference is due to take place. The reason for this may be that the principal speakers selected are all nationally acknowledged experts in their respective fields of management functions, human relations, work study, planning, training and development of executives, incentives, management accounting and communications.

Mr. Francis tells me that this is the first venture of its kind and that it is bound to be of considerable help and benefit to the industrialists who attend.

I think that it will benefit the whole industry in a rather more direct sense. The other day I heard it mentioned by two contract managers who had been on a BAS course that they had some difficulty in putting across the new ideas they had acquired after returning to their firms because their principals scarcely understood what they were talking about.

The director-level management conference seems to me to be an ideal way of overcoming this *impasse*.

TO think of new ways of emphasising the need for safety in building calls for a certain amount of time and organising

ability and a great deal of imagination. The latter quality is more popularly associated with members of the architectural profession than with members of the building and contracting industry. For once at any rate this popular conception is confounded, for I see that the Accident Prevention Committee of the L.M.B.A., which is constantly seeking new ways of stressing the importance of safety in building operations, has recently devised a new scheme in collaboration with Ro.S.P.A.

Propaganda posters are valuable enough on large sites employing considerable numbers of men, the L.M.B.A. committee argue, but they are not really suitable for the smaller type of firm concerned principally with maintenance work and interior decorating. Consequently the committee and Ro.S.P.A. have devised a series of sticky labels bearing accident prevention slogans which can be attached to a man's time sheet, the idea being that the thought conveyed in the slogan will be in front of the operative daily. It is a good idea, too. Sheets of slogans can be bought for a few pence a dozen and, in view of the high insurance rates paid by most firms, they would be well advised to adopt this new and rather inexpensive way of ramming home the need for safety on the site.

THE problem of traffic congestion and pedestrian movement in town centres is becoming more acute and at long last a planning group has been set up to consider long-term policy. The Ministry of Housing and Local Government inspector who conducted the Piccadilly site inquiry earlier this year, Mr. C. D. Buchanan, has been invited by Mr. Marples, the Minister of Transport, to join the group. It is reported that he has already left the Ministry of Housing.

The architectural reporter of one of the national newspapers says that architects welcome this appointment for Mr. Buchanan's report on the inquiry and his comments on its architectural and traffic issues showed him "well qualified to take a lead in the group's work."

Mr. Buchanan, who is an architect and an engineer, is considered to be an advocate of a new approach to urban planning who thinks that the ordinary street has been "killed" by the car.

With my simple mind, I think that if there is insufficient room for traffic and pedestrians in the areas at present available in town centres then either there must be elevated walkways for pedestrians or elevated motorways for through traffic. The former idea has been adopted in the City's Barbican scheme. The second, probably because of its greater costliness, is at no more than the talking stage.

Anyway, plenty of architects have ideas on this and related problems and Mr. Buchanan's appointment to the Minister's planning group seems to suggest that Mr. Marples recognises this. Somehow, though, I don't think the engineers are so keen on the idea that the architects should have anything to do with road schemes.

IT was sad to read of the passing of Stanley Wearing, who must surely have been one of the most charming and interesting architects in East Anglia, or anywhere else for that matter. It is many years now since I called on him in his Norwich office and discussed with him the post-war problems confronting his profession and the building industry. He displayed then a graciousness and deep-seated understanding of other people's problems which characterised his general approach to life. He somehow had the knack of bringing happiness and a sense of worthwhileness to everyone he met and one was always the richer for exchanging a few words with him. He died at the age of 79 and I would like to pay my small tribute to a man who, by his work and allied interests, enriched his profession and the industry it serves.

Talking of Safety

by
"DRAGEE"

THE weird and wonderful ways of elementary mechanics sometimes take an awful lot of dinning into those good souls who pride themselves on their practical approach to their work, and scornfully dismiss the calculations of mere theoreticians as idle or mischievous fancies. They declare that "common sense" is the only real test—forgetting that common sense is a relative term, and that one man's "common sense" is often another man's route to the casualty ward.

I had almost completed a busy week: there had been a conference, three evening lectures, two accidents requiring urgent investigation, and an accumulation of paper work to be cleared up. On my way to Yorkshire for the weekend, I had called on an old acquaintance, leading spiderman Alf Kirby, whose site lay on my route northwards. We had drunk tea together out of surprisingly delicate china cups (without handles) and had taken our usual stroll round the job in an atmosphere of almost old-world peace and friendliness. The fact that it was almost knocking-off time may have accounted for the prevailing sense of calm, but suddenly I came to a halt and stared directly ahead.

"For heaven's sake!" I exclaimed.

Alf, noticing the direction of my gaze, said, with some concern:

"That's the blondin we put up this morning—we haven't used it yet."

"Thank goodness for that," I replied. "What is it supposed to carry?"

Everyone in the game knows that a "blondin" is a length of rope stretched between two fixtures and used as a kind of bridge to slide a load from one elevated position to another. The device is aptly named after the famous tightrope walker who performed above Niagara Falls—only there the similarity ends. This one is not for entertainment. It is more likely for tears.

Alf's wire rope was tied at one end to the gable steelwork of a new building, and at the other end to the top of one of the columns of a conveyor gantry. A substantial double sheave trolley was mounted

"Dragee," who is a practising safety engineer, would welcome subjects for discussion in this column. All names of persons mentioned in these discussions are entirely fictitious. Questions of law are expressed as the author's personal opinions and are not claimed to be authoritative.—EDITOR.

on the carrier rope and it supported a set of 40-cwt. chain blocks. Below the chain blocks, on a small platform 40ft. above the ground, was an object covered by a tarpaulin, obviously positioned in readiness for being lifted the following Monday morning.

"Come on—what's the drill?" I demanded.

"We've got an old electric motor up there," said Alf, pointing to the tarpaulin-covered shape, "and we've got to transfer it to the gable of the new building."

"Yes?" I prompted.

"So—we rigged up a blondin for the job," he concluded.

"What's the weight of the motor?"

"Thirty-seven cwt.," said Alf.

"And what sort of pull do you expect to have in the rope?" I asked.

Alf looked at me. "Well, if you start with 37cwt. you'll finish with 37cwt. won't you? The load doesn't grow, does it? That's common sense, isn't it?"

"You're an experienced erector, Alf, so you know that can't be right. You know as well as I do what happens when you hang a load on a pair of two-legged slings. You have a good deal more tension on the legs when they're spread than you have when they're together. And, of course, the same thing happens with one of these contraptions. When your load is half way along you have, in effect, a pair of double leg rope slings—with a very wide angle of spread."

"All right," said Alf, half convinced. "Then how do you know what the pull is going to be?"

"You can work it out from a simple formula," I said. "When the load is at the centre—that is, at the worst possible position—you divide a quarter of the entire length of rope by the amount of deflection or sag, and then multiply the result of that by the weight of your load. That will give you the pull in the rope, and the amount of tension at the anchorages. Now let's see roughly what will happen here. The length of your carrier rope is about 60ft, and with your present sag you will probably have a deflection of about 5ft. A quarter of 60 is 15, and 15 divided by 5 is 3. Multiply your 37cwt. load by 3 and you have 111 cwt. or something over 5½ tons on each anchorage. Are you prepared for a pull like that?"

"It doesn't make sense," said Alf. "But I've got to take your word for it."

"I'm afraid you must. Anyway, I'll give you a note of the rule for calculating

the load and you can work out the exact figures for yourself—and remember that it doesn't take into account the effects of shock or drag. Quite honestly I don't like these outfits—there are too many unknown quantities. How much longer would it have taken you to lower the load to the ground, trundle it to the new building, and hoist it when you get there?"

"About a month," said Alf, bitterly.

Actually it didn't take any longer than it would have done with Alf's blondin.

BOOK REVIEWS

A Course of Reinforced Concrete Design, by Thomas J. Bray. Publishers, Chapman and Hall. 286 pages. Price 63s.

This is the third edition of a well-known and popular text book, first published in 1946. Although the preface to the third edition mentions the universal acceptance of the British Standard Code of Practice No. 114 and states that the text has been completely re-written, there is no specific mention that the text is now in conformity with the 1957 edition of CP 114. In fact, the author has included a chapter on Load Factor Design and most of the text, charts and tables are applicable to reinforced concrete generally irrespective of Code recommendations.

The book follows the traditional order of introducing design methods—slabs, beams, columns and foundations—and gives innumerable charts and graphs which will be of immense value in the design office. So well provided is the book in these aids that it is tempting to wonder whether the title of the book—a "course" in reinforced concrete design—is particularly well chosen. For a student, greater emphasis on first principles and an encouragement to work out his own aids is desirable.

The later chapters are very useful. These deal with the design of various structures and introduce many problems which will be met with in practice. There are sections on the use of high yield point steel, concrete roads and prestressed concrete. The Appendices include five sections on the more practical aspects of reinforced concrete work and the text on the treatment of concrete surfaces is commended.

One of the difficulties of writing a book of this kind is to know whether to stick rigidly to the recommendations of the Code of Practice or whether to vary these where the author's experience might suggest. On the whole, it is probably safer to follow the Code but, where this is done, it is advisable to introduce some warning to the student that the Code represents recommendations only for normal construction and it is surprising how frequently work slips into the "abnormal" category. A minimum cover of $\frac{1}{2}$ in. or the diameter of the bar is seldom adequate and the suggestion that the minimum cover should be increased by $\frac{1}{2}$ in. only in moist conditions is dangerous. Few competent engineers would provide less than 2 in. whatever the size of the nearest bars. A partition load of 20lb. per sq. ft. may be adequate in the design of beams but is unrealistic in the design of slabs. Where partitions are movable, it is generally possible to assess the probable weight and check the design of slabs and beams for the worst case—frequently much worse than the assumption of a uniformly distributed load of 20lb. per sq. ft.

The demonstration of detailing in textbooks such as Mr. Bray's is questionable. Generally, only the position of the main bars can be shown. In practice, a structure seldom fails due to any lack of care on the part of the designer in detailing the main bars. The life of a building is more usually determined by the detailing of the secondary reinforcement which can only be learned by experience. However, these are shortcomings of almost all reinforced concrete textbooks and this particular volume is one of the better of its kind.



MULTI-STOREY CAR PARK FOR 3,300 VEHICLES

Lift Slab Construction for Austin Building

A MULTI-STOREY car park—said to be the biggest of its kind in the world—is to be built at the Austin Motor Company's Longbridge, Birmingham, works to overcome difficulties which arise in accommodating the high output of vehicles from the factory.

The building, which will be in full operation by September, 1961, is nine storeys high with ramped floors, and will house 3,300 vehicles. Cars will go there direct from the assembly lines to await collection for the export market.

The Longbridge works has a current capacity of over 8,000 vehicles a week, which under the £49m. B.M.C. expansion plan will rise to 10,500 a week by 1962.

This creates a storage problem. Outside the factory there are usually long lines of cars waiting for collection. But the factory itself is expanding and reducing areas available for parking finished vehicles. By the second half of 1961 a

vast new building for the paint, trim, finishing and final assembly of 2,500 vehicles a week will be in operation beside the existing car assembly building—on ground now occupied by vehicles on despatch.

As there is no possibility of expanding outwards for parking space, the company has decided to expand upwards. To meet this need, Harry W. Weedon, F.R.I.B.A. and Partners, the British Motor Corporation's official architects have designed this car park building to make maximum use of the area available.

R.C. and Slab Construction

The building is of reinforced concrete columns and slab construction and is 376ft. long and 204ft. wide. Building work will start shortly, site clearance having already started.

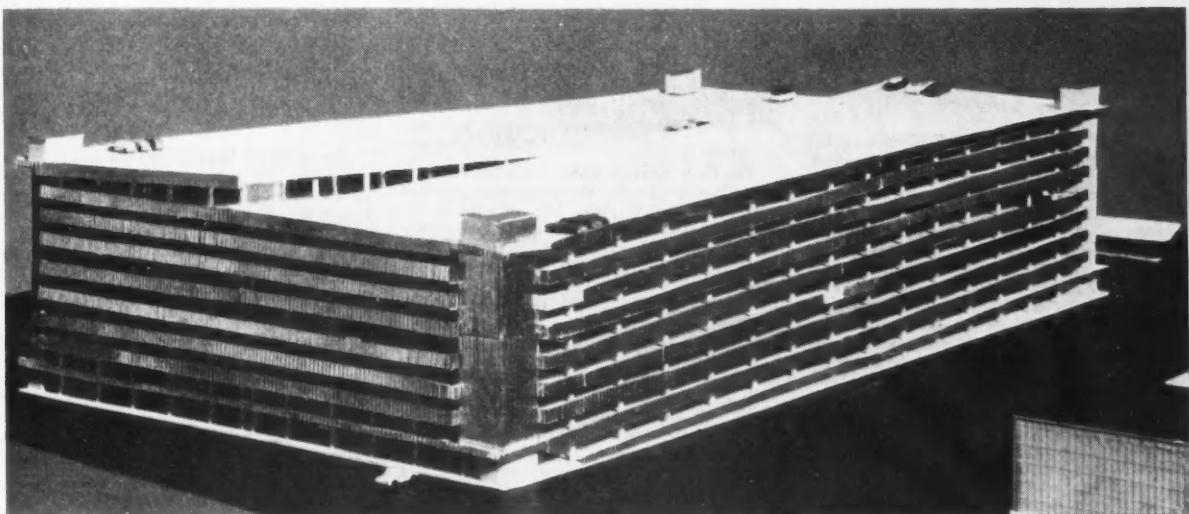
It uses the ramped floor principle of operation. All parking floors are ramped, and a double spiral system of floors enables

upward and downward traffic movement to be completely segregated. Passenger lifts and staircases are provided at the four corners, and, in addition to car access by the ramped floors, two car lifts will be installed, principally to move cars above fourth-floor level.

Lift Slab

In constructing the building the lift slab principle will be employed. After the precast reinforced concrete columns have been erected, the upper floors and roof are then cast round the columns in complete slabs, at ground level instead of at floor or roof height. A separating medium such as polythene strip is used between the slabs. The slabs are lifted to their correct positions by synchronised hydraulic jacks and permanently connected to the columns. The advantages include speed and economy, and the fact that all major concreting work is carried out at ground level, which avoids expensive shuttering and the need to hoist materials.

The architects are Harry W. Weedon, F.R.I.B.A. and Partners, 45/47 Calthorpe Road, Edgbaston, Birmingham, the quantity surveyors are L. C. Wakeman and Partners, 11-12 Highfield Road, Edgbaston, Birmingham, 15, and the building contractors are R. M. Douglas (Contractors), Ltd., 395 George Road, Erdington, Birmingham.



Model of proposed multi-storey car park

MILFORD HAVEN JETTY TO SERVE FLEET OF LAUNCHES

A CONTRACT has been placed by the Milford Haven Conservancy Board for the construction of a jetty on the north shore of the Haven, near Fort Hubberston, from which a fleet of launches will be operated to cope with extensive maritime traffic which is expected to develop.

The works will comprise an approach road down the hillside and an approach jetty 300ft. long, leading to a jetty head. One arm of the L-shaped jetty head will form a 100ft. long protecting extension to the approach jetty; the seaward arm, lying parallel with the shore will be 230ft. long, the two arms together providing an adequate area of protected berthing on the inside while unprotected berthing is available on the outside. These arms will be aligned in such a manner that launches berthing on the inside will obtain protection from south-westerly and south-easterly seas.

The approach jetty will consist of a

concrete deck structure on precast piles, with a carriageway width of 10ft. 6in. between handrails.

Comprising three reinforced concrete pontoon foundation units, the pier head structure will be built in a dry dock and towed to the site by tugs. When aligned in their proper positions, the pontoons will be allowed to settle on to the sea bed, where they will be temporarily steamed by four steel piles in such a way that the top of the pontoon walls will be horizontal and at a level above that of low water neap tides. Precast concrete piles will then be driven to rock through slots already provided in the pontoons to which the driven piles will be connected, making a stable monolithic base to the structure, which will have to withstand severe stresses in bad weather. The road deck on the pier head will be 21ft. wide and will be at a height of 6ft. above maximum high water. It will be supported by precast concrete diaphragm walls erected on the top of the foundation units. A

steel sheet piling wall will then be fixed between the deck and the top of the foundation units along the seaward side of the two arms of the pier head. This sheet piling will complete the protection of the inside of the jetty against wind and sea.

Consultants and Contractors

Posford, Pavry and Partners, Abbey House, Victoria Street, London, S.W.1, are the consulting engineers for the scheme, which will cost about £150,000, and is expected to take 12 months to complete. The contractors are Peter Lind and Co., Ltd., Romney House, Tufton Street, London, S.W.1.

MINISTER APPROVES BELFAST SLUM CLEARANCE SCHEME

The Minister of Health and Local Government has approved Belfast City Council's £3m. slum clearance scheme for the Upper Library Street area, which involves the demolition of 1,300 houses. Preliminary arrangements are to go ahead immediately for acquiring the land and serving the necessary notices.

Men and Movements

THE formation of a new company and its appointment as dealer for John Deere industrial tractors in Derbyshire has been made by Mr. Michael F. Kelly, former industrial sales manager for H. Leverton and Co., Ltd. Kelly Equipment Co., Ltd., as the new company is called, will undertake dealerships for contractors' plant, in the north and east Midlands. Other directors of the new company are Mr. P. J. Broderick and Mr. J. Ryan of Broderick and Ryan, Ltd., civil engineering contractors.

Mr. J. D. Goddard, a director of Stenor, Ltd., a member of the Firth Cleveland group, has been visiting Canada on a fact-finding visit.

Rudders and Paynes, Ltd., Birmingham, have appointed Mr. A. R. Zambla as general manager of their roofing, structural insulation and acoustics department.

Mr. G. W. Parkinson has been appointed full director of Sir Lindsay Parkinson and Co., Ltd., and Mr. J. H. Bryant has been appointed a special director.

Mr. J. F. Stanners, B.Sc., has succeeded Dr. J. C. Hudson, who has retired as head of corrosion research in the chemistry department of The British Iron and Steel Research Association. Mr. E. E. White, F.R.I.C., A.M.I.M.M., F.Z.S., M.I.Ing.Sc., has been appointed head of the BISRA corrosion advice bureau

Quickset Water Sealers, Ltd., a member of the Cementation group of companies, has appointed Mr. A. W. Brownscombe to a new post as technical representative for the north London territory.

The appointment of two further local directors has been announced by Hadfields, Ltd. They are Mr. Denis R. Ward, assistant secretary of the company and secretary of several of the subsidiary companies in the group; and Mr. Arthur W. Gurney, A.C.W.A., chief cost accountant of the company. Both joined Hadfields in 1951.

The group chief engineer to Associated British Engineering, Ltd., Mr. R. W. Stuart Mitchell, has relinquished his post to take up the Chair of Gas Turbine Technology at the Technological University of Delft in Holland. He will, however, remain as technical adviser to the Associated British Engineering group for the next two years, when the arrangement will be reviewed.

A new division within the English Electric Co., Ltd., will be formed at Netherton Works, near Liverpool, to combine all aspects of the company's hydroelectric engineering. Mr. J. Gavin Warnock will be the manager of the new division. He is at present manager of the hydraulic department of the company's Canadian associate, John Inglis and Co., of Toronto.

Mr. Peter Beaty, of Epping, and Mr. Kinburn Cartwright, of Carlisle have been chosen as two of Britain's representatives in the International Apprentices Competition at Barcelona, Spain, at the end of next month. They will compete in the junior and senior carpentry sections respectively. Both are employed by John Laing and Son, Ltd.

In connection with their programme of expansion, Whitlock Bros. Ltd., have announced the appointment of Mr. Frank Wilson as public relations officer to the company. Mr. Wilson was previously with Michigan (Great Britain), Ltd., and Taylor Woodrow (Building Exports), Ltd.



F. WILSON

Mr. R. J. Knight, until now a representative attached to the Bournemouth office of Mercantile Credit Co., Ltd., has been appointed sub-branch manager, Bournemouth. Mr. D. Hancock, previously resident representative at Bournemouth, is now attached to Newbury as a plant and machinery representative for the southern area.

Mr. Eric Newbigging, B.Sc.(Econ.), M.S.M.A., has joined Stanley Works (G.B.), Ltd., as sales promotion manager. He was previously sales promotion manager of Parkinson Cowan Appliances, Ltd.

Mr. L. A. Lloyd has been appointed spares and service manager of the contractors' plant dept. (southern area) of Thos. W. Ward, Ltd. He will be based at Titan Works, Grays, Essex, to which address all inquiries regarding spare parts for Fowler Marshall tractors should now be directed.

MUNICIPAL

Mr. Herbert Padget, chief assistant architect at Newcastle upon Tyne, has been appointed deputy city architect in succession to Mr. Raymond Ash, who has taken up an appointment with Birmingham City Council. Mr. Padget joined Newcastle city architect's dept. 12 years ago.

Surrey C.C. have been recommended to appoint Mr. Eric G. Sibert deputy county planning officer. He will succeed Mr. W. Burns, who is taking up the post of city planning officer at Newcastle upon Tyne.

Mr. B. M. Rollinson, engineer and surveyor to Kearsley (Lancs.) U.D.C., has been appointed to a similar post with Rugeley (Staffs.) U.D.C., succeeding Mr. D. W. Darbyshire, who has resigned.

After many years in the post, Mr. Paul Hempel, engineer and manager to the Don Valley Water Board, has retired.

Mr. W. B. Wigall, deputy borough surveyor at Mitcham, has been appointed surveyor to the Wandle Valley Joint Sewerage Board, and will take up his duties on the retirement in September of Mr. Riley Schofield.

Mr. William S. Ellis, who has been with Adwick-le-Street (Yorks.) U.D.C. for the past 40 years, 22 of which he has spent as engineer and surveyor, has now retired.

Mr. J. Alcock has been appointed to the board of Midgley and Sutcliffe, Ltd., a member of the 600 Group. He has been works manager with the company since 1956.

Mr. R. W. Edwards, deputy engineer and surveyor to Esher (Surrey) U.D.C., has been appointed engineer and surveyor to Chigwell (Essex) U.D.C.

The new borough surveyor at Mitcham is Mr. John W. Turner, previously deputy borough engineer at Tottenham.

Lancashire C.C. have appointed Mr. R. Booth, principal assistant architect, to the post of deputy county architect in succession to Mr. Allport Williams.

Mr. G. G. Marsland, borough surveyor at Cheltenham for the last 27 years, has retired. He will be succeeded by the deputy borough surveyor, Mr. W. E. C. Bird.

Gosport B.C. have been recommended to appoint Mr. A. H. Price deputy borough engineer and surveyor. Mr. Price is at present chief assistant engineer at Worcester.

FOR THE DIARY

- Aug. 30**
Royal Institution of Chartered Surveyors. Annual conference at the University College of North Wales, Bangor. Aug. 30-Sept. 3.
- Sept. 1**
The Contractors' Mechanical Plant Engineers—London Branch. Meeting at Park Royal Hotel, Park Royal, 7.30 p.m. Film show by Atlas Copco.
- Sept. 8**
Meeting of the Southern Counties branch of the Contractors' Mechanical Plant Engineers, The Surrey Arms, Morden Road, Morden, 7.30 p.m. Film show.
- "Highway Developments in the U.S.A." Meeting arranged under the auspices of the Institution of Highway Engineers, Friends' House, Euston Road, London, N.W.1. 10 a.m. to 5 p.m.
- Sept. 11**
International Trade Fair at Brno, Czechoslovakia. Sept. 11-25.
- Sept. 13**
Eighth annual residential study course arranged by the South-Western District of the Institution of Municipal Engineers. Dillington House, Ilminster, Somerset. Sept. 13-15.
- Annual conference of the Association of Public Lighting Engineers, Folkestone. Sept. 13-16.
- Sept. 14**
Meeting of the Glasgow branch of the Contractors' Mechanical Plant Engineers, Mores' Hotel, India Street, Glasgow. 7.15 p.m. Film show.
- Meeting of the Western Branch of the Institution of Plant Engineers, Royal Clarence Hotel, Exeter. 7 p.m. Film and talk on the construction of the M.1 Motorway.
- Sept. 16**
Meeting of the Birmingham branch of the Institution of Plant Engineers, Imperial Hotel, Birmingham. 7.30 p.m. Mobile Plant Discussion Group.
- Annual meeting of the North Western District of the Institution of Municipal Engineers at the Town Hall, Rochdale, 11.30 a.m.
- Sept. 21**
Conference of the British Waterworks Association, Edinburgh, Sept. 21-23.
- Factory Equipment Exhibition, Belle Vue, Manchester. Sept. 21-Oct. 1.
- Sept. 23**
Commercial Motor Show, Earl's Court, London, Sept. 23—Oct. 1.
- Sept. 27**
Meeting of the Mid-Southern branch of the Contractors' Mechanical Plant Engineers, The George Hotel, King Street, Reading. 7.30 p.m. Film show.
- Sept. 30**
Meeting of the Metropolitan and Southern branch of the Institute of Sewage Purification, Friends' House, Euston Road, London, N.W.1. 6.30 p.m. Discussion—New and Pending Legislation—introduced by J. L. Spiller.
- Oct. 3**
Conference of the Institute of Quarrying, North British Hotel, Edinburgh, Oct. 3-6.
- Oct. 6**
Convention on Parking arranged by the Institution of Municipal Engineers at Central Hall, London, 10 a.m.
- Oct. 10**
Meeting of London branch of the Institution of Plant Engineers, at the Royal Society of Arts, John Adam Street, London, W.C.2. at 7 p.m. An international paper "Plant Engineering on the Continent."

DURABILITY OF REINFORCED CONCRETE IN SEA WATER

THE Sea Action Committee of the Institution of Civil Engineers has been investigating the deterioration of structures of timber, metal and concrete in sea water since 1916. In 1929 the Committee arranged with the Building Research Station for an investigation of the resistance of reinforced concrete to attack by sea water and the final report* of this investigation has now been published.

In their report the Committee state that the general conclusion emerging from the study is that the primary cause of deterioration of reinforced concrete piles was corrosion of the reinforcement and not disintegration of the concrete from the chemical or physical effects of the salts in sea-water. The latter nevertheless have an influence on the incidence of corrosion, since this became progressively greater as the resistance of the cement to direct attack decreased.

The cement content and thickness of cover were of major importance in determining the durability of the piles.

Small 6in. by 3in. concrete cylinders in many cases suffered much more severe deterioration than larger piles. High-alumina cement was the most resistant.

*National Building Studies, Research Paper No. 30. "The Durability of Reinforced Concrete in Sea Water." Twentieth Report of the Sea Action Committee of the Institution of Civil Engineers. Published for the D.S.I.R. by H.M.S.O. Price 4s.

followed by the Portland blastfurnace and Pozzolanic cements, with the Portland cements the least resistant.

Observations on cracking of the piles, corrosion of the reinforcement in un-cracked piles, and the deterioration of the concrete cylinders give a broadly consistent picture of the effect of cement content of the concrete, cover to the reinforcement, and of type of cement.

Cement Performances

The results of the present trials show that with a 1:5 by weight Portland cement (ordinary or rapid-hardening) concrete, a 2in. cover to the reinforcement is insufficient to guarantee protection against corrosion of the steel in piles above low-tide level and that a somewhat richer mix, or a thicker cover, is required. Over a test period of 10 years, a 2in. cover of 1:5 concrete sufficed to protect the reinforcement from corrosion with Portland blastfurnace and trass-Portland cements, but after 23 years some of the piles with the former had cracked and also those from one of the two trass cements. High-alumina cement gave overall the best performance up to the 23 years, but it must be noted that the behaviour of this cement can be much affected if a high internal temperature is reached in the concrete. The heat evolution from the reaction of the cement with water is rapid and the risk of high temperatures being attained increases with the cross-sectional area of the pile. High-alumina cement is unsuitable for use in tropical waters.

SERVICES ON THE M.1

THE first cafeteria on the London-Birmingham Motorway has now been opened in the Newport Pagnell service area, about 35 miles from the southern end of the motorway.

Refreshments are available throughout the day and night and free parking and toilets are also provided in addition to the existing refuelling service, which has been available since the motorway opened last November. The new services are being carried out by Motorway Services, Ltd.

Next month the first of the cafes being provided by Blue Board (Motorways), Ltd., at the Watford Gap service area will be opened.

New Signs

Drivers are informed that they are approaching a service area by new signs which replace the earlier "Fuel" signs. Designed by Mr. Jock Kinneir, the new signs were recommended to the Minister of Transport by the Advisory Committee on Traffic Signs for Motorways, whose chairman is Sir Colin Anderson.

They are similar in scale—some are 10ft. 6in. high and 17ft. wide—to the motorway signs already in use. The same distinct colours have been used, white lettering and symbols on a blue ground.

After each intersection along the motorway, where appropriate, there will be a worded sign showing the distance to the next service area; for example "Services 10m." One mile before the service area there will be another sign "Services 1m." and half a mile before the area there will be a larger sign reading "Services $\frac{1}{2}$ m." which also shows the main facilities obtainable.

Individual facilities are indicated by symbols only, a petrol pump for fuel, a knife and fork for meals, a cup for snacks and the international white on blue "P" for parking.

At the beginning of the slip road leading into the service area there will be another sign, identical with the half-mile sign, except that the legend "Services $\frac{1}{2}$ m." is replaced by an arrow and the word "Services." Finally, in the point of land between the slip road and the motorway, there will be a supplementary pointer sign consisting of an arrow and the petrol pump symbol.

SUCCESSFUL PRACTICAL TRAINING SCHEME

Over 300 pupil engineers have so far qualified as Associate Members of the Institution of Civil Engineers under the civil engineering industry's practical training scheme. This scheme for the practical training of young engineers is run jointly by the Federation of Civil Engineering Contractors and the Institution of Civil Engineers and enables young engineers to obtain necessary practical training while employed with firms of civil engineering contractors.

A review just completed by the Federation shows that 339 young engineers have gained their A.M.I.C.E. under the scheme since it was started in 1944. Over 80 per cent. of these men had graduated in engineering before they became indentured under the scheme and experience indicates that graduates usually take about five years to qualify for their A.M.I.C.E. Non-graduates, who have to combine their theoretical studies with the practical training, usually take about eight years.

Last year 39 men qualified for their A.M.I.C.E. under the scheme. The Federation is confident that this figure will be increased in the future because the number of indentures has risen sharply in the last two years to over 160 per year. A feature of the rise has been the large increase in the number of graduates becoming indentured under the scheme.



Model of houses showing carports

International Construction**PROGRESS AT DURGAPUR STEELWORKS,
INDIA**

WITH Stages I and II completed, semi-finished rolled steel products are now being produced at the Durgapur Steelworks, India. When the remaining stages III and IV are completed during the first half of 1961, finished rolled steel products (e.g., joists, channels) will then come into production.

By the end of June, 1960, approximately 95 per cent. of the plant and equipment being supplied from the United Kingdom had been shipped, amounting to approximately 243,000 tons. Since the first shipment in February, 1957, a regular flow of plant and equipment, structural steelwork, refractory bricks, etc., has taken place between U.K. ports and Calcutta Docks, with a maximum of approximately 16,000 tons a month during the peak months.

Civil engineering work and the erection of structural steelwork is nearing completion and activity at the site is now largely devoted to the erection of mechanical and electrical plant and equipment.

Training of Personnel

For the Durgapur Steelworks the U.K. Government is financing under the Technical Co-operation Scheme of the Colombo Plan, the training in the U.K. of 350 engineers for the supervisory staff of the works.

Up to June 30, 1960, 247 of these engineers have come to the U.K., of whom 168 have since returned to India, and there are at present 79 under training here in this country. The last group of engineers is expected about February, 1961.

Coke Ovens and By-Product Plant

Since the No. 1 coke oven battery went into operation on November 23, 1959, approximately 178,000 tons of coke have been produced up to June 30, 1960.

The No. 2 battery has been completed and ready to be commissioned and work has been commenced on the No. 3 battery which is scheduled for completion by April, 1961. The coal washery is also now in operation.

In the by-product plant area the sulphate of ammonia plant and the tar plant are in operation and the benzol rectification plant is nearing completion.

Iron Making Plant

No. 1 blast furnace went into operation on December 29, 1959, and up to June 30,

NEW ZEALAND GEOTHERMAL STEAM PROJECT

The New Zealand Government have let a contract of about £1m. for the second stage of the Wairakei geothermal steam project to Waite-Tileman, Ltd., Auckland.

Stage one of the project is already in operation, and the completion of stage two, estimated to cost some £8m., will bring installed generating capacity at Wairakei to 151,400-kW. In the proposed third stage of development, the station's output is to be lifted to about 250,000-kW. The total cost of the scheme at that stage will be about £24m.

The Waite-Tileman contract applies to all necessary earthworks, and includes roading, drainage, water supply, the provision of cable ducts and cooling water culverts. Other items coming within the scope of the contract include the erection of a pipe bridge, the construction of ancillary buildings and reinforced concrete supports and anchors for cooling water pipes.

approximately 153,000 tons of pig iron have been produced; the No. 2 furnace is nearly completed and the shell of No. 3 furnace has been completed and work is now proceeding on the erection of the skip hoist structure; this furnace is scheduled for completion by April, 1961, as part of stage III of the works.

Steel Making Plant

In the melting shop two out of the seven 200-ton open hearth furnaces are now in production. Up to June 30, the total quantity of ingots produced was approximately 10,200 tons.

The third furnace has also been completed and is now ready for drying out; of the two 800-ton capacity hot metal mixers the first is completed and in operation and the second is now being bricked.

Rolling Mill Plant

In the rolling mill plant the 42in. bloom-ing mill went into operation on May 9, 1960; this was followed three days later on May 11 by the 32in. intermediate mill. The continuous billet mill went into operation on June 17. Up to June 30, 1960, approximately 3,300 tons of blooms have been rolled by the 42in. and 32in. mills and between June 17-30 approximately 520 tons of 2in. to 4in. billets have been rolled by the billet mill.

The foundations for the 24in. medium section mill and the continuous merchant mill are completed and erection of the mill stands and ancillary equipment is now in progress. Both of these mills are also associated items of finishing equipment and scheduled for completion in April, 1961, as part of stage III of the works.

This will then see the completion of the rolling mill plant and the finished products such as flats, rounds, joists and channels will be available for sale.

Wheel and Axle Plant

This plant is the last stage of the works scheduled for completion in July, 1961. The greater part of the foundations for both buildings and plant have been completed and erection of the structural steelwork for the building is now in progress.

Central engineering maintenance department, iron and steel foundry and power plant were completed as stage I commitments and are now in operation.

The project is being carried out by Indian Steelworks Construction Co., Ltd. (ISCON), a consortium of 13 British firms.

PROCESS TO STOP WATER EVAPORATION

A process, developed by the Australian Commonwealth Scientific and Industrial Research Organisation for control of the evaporation of water in storages such as dams and lakes, has recently been improved to enable its application to larger storages.

In outback areas of Australia it will result in millions of gallons of water being saved from evaporation. The control method, known as the Mansfield process, costs as little as 1d. for every 1,000 gallons of water saved.

Until recently, the process had been suitable for only small water storages up to two acres in size. A thin layer of tasteless and odourless cetyl alcohol powder spread on the surface of the water from a moving boat, however, makes it suitable for storages like lakes, dams and reservoirs. The powder floats on the surface forming a thin protective covering which prevents evaporation.

£2M. LOAN FOR SIERRA LEONE WATER SCHEME

THE Colonial Development Corporation are to provide £2m. by way of loans to the Sierra Leone Government for the Guma Valley project. The Commonwealth Development Finance Company are to loan £400,000 and the rest of the £3.5m. which is needed to finance the whole project will be provided by the Government.

It is estimated that the project will take four years, and the consulting engineers, Howard Humphreys and Sons, London, have been asked to advertise for tenders. In the interim it is intended to extend the Congo Valley dam at the cost of about £30,000 to reduce the shortage of water during the dry season.

When the Guma Valley dam is completed 16,000,000 gallons of water will be available daily and of this, 12,000,000 gallons will be used to generate electricity.

MAURITIUS AIRPORT LIGHTING CONTRACT

Plaisance Airport, Mauritius, is to be equipped with a new airfield lighting system supplied by the General Electric Co., Ltd. An order worth £25,000 for runway, approach and taxiway lights, orbiting guidance lights, visual glide path indicators, cable and switchgear has been placed with the company by George E. Taylor and Co. (Overseas), Ltd., the main contractors for the scheme.

The 6,600ft. long main runway will be provided with low-intensity omnidirectional elevated lights and similar lights with blue filters will be used to mark the edges of the taxiways. G.E.C. are also supplying two standby diesel-alternator sets which start up automatically if the mains fail.

CABLE INSTALLATION IN ABADAN

The supply and installation of 2.6 miles of 33-kV armoured power cable and 3.5 miles of 7-pair underground pilot cable at Abadan, Iran, has recently been completed by British Insulated Callender's Cables, Ltd., London. The cable route runs from the Oil Consortium's power station to the commencement of the 132-kV overhead line from Abadan to Ahwaz.

BICC were sub-contractors to The Development and Research Corporation, New York, who were appointed by the Seven Year Plan Organisation to undertake development of the Khuzestan Province. The American corporation formed a subsidiary company, The Khuzestan Development Service, based at Teheran and Ahwaz in Iran, especially for this project.

EL SALVADOR HYDRO-ELECTRIC SCHEMES

A loan of nearly \$4m. has been approved by the World Bank in connection with expansion of electric power facilities in El Salvador, and will finance the import of equipment and services for the Guayoso 15,000-kW hydro-electric power project.

AUSTRALIAN DAM CONTRACT

A contract worth £A2,894,000 for building a diversion dam on the Ord River in the Kimberley district of Western Australia has been awarded to Christiani and Nielsen, of Denmark, in partnership with Clough Construction, of Perth. The dam is the first stage in the development of the river for irrigation and electric power generation.

International Construction

Jameson Avenue, Salisbury

STREET LIGHTING IN SALISBURY, SOUTHERN RHODESIA

TO keep in step with the rapid industrial and commercial development of the city, a modern system of street lighting has been installed in the centre of Salisbury, Southern Rhodesia, under the supervision of the city electrical engineer, Mr. J. E. Mitchell.

The centre of the town, Jameson Avenue, comprises a wide thoroughfare, approximately 130ft. between building faces. This is fast becoming the commercial hub of the town and the carriageway therefore consists of a dual track, each of four lanes, with additional parking facilities adjacent to the kerb. Lighting here is by means of seven specially designed columns, each having a height of 40ft. embodying a special bracket arm arrangement to carry three Atlas "Alpha I" sodium street lanterns, equipped with 140-W lamps.

In this avenue a 21-storey building is under construction by Richard Costain, Ltd., for the London County Properties of Rhodesia (Pvt.), Ltd. The building towers 250ft. above pavement level and will be

the tallest building in the Federation and the second tallest in Southern Africa.

Owing to the extreme width of the roadway and the importance of this as a town centre, the authorities are providing 19,800 lumens per 100ft. linear of roadway over this region.

Street lighting of Rhodes Avenue is typical of the treatment of the boulevards in the town, having 140-W Atlas "Alpha I" sodium lanterns at a mounting height of 30ft. and spacings of 120ft. The position of the columns is staggered alternately on either side of the 22ft. carriageway. This avenue has well matured trees on each side in the verge, and the columns are situated 6ft. back from the edge of the tarmac with bracket arms approximately 8ft. outreach. By this means street lighting is kept relatively clear of the foliage of trees so that the roadway itself is well illuminated, while adequate light is spread over the verges to cater for car parking off the road. The avenue is lit to group A standard, providing 5,510 lumens per 100ft. linear.

In some of the older parts of the city,



Manica Road, Salisbury

similar lanterns and spacings are used, of which the accompanying photograph of Manica Road is typical.

In such a fast growing community, ingenuity is necessary sometimes to overcome difficulties in the siting of columns and in the case of the South African Timber Co. (Pvt.), Ltd., the City Authorities worked in conjunction with the architect of the building and arranged for the street lighting columns to be mounted on the building structure itself, in such a way as not to impede the footway or spoil the frontage of the premises with column obstructions.

All told, a total of 200 Atlas sodium lanterns have been used throughout the city, installed by the staff of the City of Salisbury Electricity Department, who have supplied the technical data relating to the installation.

NEW SURVEY TECHNIQUE IN LIBYA

An interesting new survey technique is being used for BP in its search for oil in Libya. Known as the Geograph, it is a variation of the seismic survey in which small shock waves are used to detect the position of the various rock strata beneath the ground surface.

In the conventional seismic survey these shock waves are generated by detonating small explosive charges in shot holes drilled a few feet into the ground. With the Geograph survey the shock waves are set up by dropping a heavy steel weight on to the surface. This weight, of some 6,000lb., is mounted on a truck known as the "Thumper." The weight is raised by an hydraulic system and is released by an electro-magnet, falling a distance of 9ft.

While the individual shock waves with the Geograph are much smaller than those created by explosive shots, the integration of the results from several weight drops by special electronic apparatus enables high quality records to be obtained.

An advantage of the Geograph method is that it eliminates the cost of explosives, and of drilling shot holes. The latter can be a major item in some parts of Libya, because of the hard limestone surface, calling for expensive rock-bits to penetrate it.

INDIAN ALUMINIUM FABRICATING LICENCE

Hindustan Aluminium Corporation, Ltd. (HINDALCO), a joint venture sponsored by the Birla interests in India and Kaiser Aluminium and Chemical Corporation, has received a licence from the Indian Government for construction of an aluminium fabricating facility.

The licence gives the company rights to construct a mill capable of producing 15,000 metric tons of rolled, drawn and extruded aluminium products annually.

Construction of HINDALCO's integrated alumina and aluminium reduction plant began last March at a site halfway between New Delhi and Calcutta. This plant, scheduled for completion in 1962, is being built under the supervision of Kaiser Engineers Overseas Corporation.

NYASALAND WATER TREATMENT CONTRACT

A contract for the erection of a water treatment plant for purifying 2,000,000 gallons of water a day from the Shire River in the Blantyre District of Nyasaland has been let to Dowson and Dobson, Ltd., at £58,833.

The work—contract No. 5 of the Walker's Ferry scheme—includes sedimentation and clarification tanks, chemical mixing and feeding, sand filters, filter cleaning, and sterilisation of the treated water. Scott and Wilson, Kirkpatrick and Partners, 47 Victoria Street, London, S.W.1, are the consulting engineers.

Trade Section**"SUPERCritical" PRESSURE BOILER FOR POWER STATION**

BABCOCK AND WILCOX, LTD., are to supply a "supercritical" pressure boiler for the Drakelow C power station, East Midlands Division, Central Electricity Generating Board, which will be the first central power station in Great Britain to have boiler plant operating at "supercritical" pressure.

The boiler will be pulverised-coal fired and of the forced-flow "once-through" type, in which no steam-drum is required, the water being heated and evaporated, and the steam superheated, in a single passage through the multiple tube banks of the boiler. It will supply 2,500,000lb. steam per hour to a 375,000-kW turbo-generator at a pressure of 3,650lb./sq. in. and a temperature of 1,110 degrees F., a high proportion of the steam being returned to the boiler, after partial expansion in the turbine, for reheat to a temperature of 1,055 degrees F. at a pressure of 713lb./sq. in.

THERMOSTATICALLY CONTROLLED RADIATOR VALVE

BRITISH STEAM SPECIALTIES, LTD., Fleet Street, Leicester, are producing a new thermostatically controlled "Boss" solenoid radiator valve, which allows individual room temperatures to be maintained on a hot water central heating system.

The valve is designed for use with low pressure, accelerated or gravity hot water systems. It is automatically controlled by the thermostat to switch "on" or "off" according to the selected setting. The valve is fitted to the inlet connection of the radiator while the thermostat is fixed nearby to the wall. The electrical wiring only requires a circuit being completed from the source of power, through the thermostat and valve and back to the source.

EPICYCLIC GEARS FOR POWER STATION PLANT

W. H. ALLEN, SONS AND CO., LTD., have received an order for two Allen-Stoeckicht epicyclic gear units for motor-driven horizontal boiler feed pumps for installation in Thorpe Marsh Power Station of the Central Electricity Generating Board.

These units, ordered by G. and J. Weir, LTD., of Glasgow, are designed to transmit 8,200-h.p. continuously each and increase the motor speed of 990 r.p.m. to the pump speed of 4,500 r.p.m. These gears are being built at the company's Atlas Works, Pershore, Worcestershire.

FORDSON TRACTOR EXPORTS HIGHEST EVER

MR. W. B. Batty, manager, Fordson Tractor Division, has stated that the shipment of 5,729 tractors overseas in the month of July was an all-time record. In the first seven months of this year 33,650 tractors were exported. This record total showed an increase of 21.4 per cent. as compared with the similar, and, at that time, record period in 1959.

The main markets for these tractors were Australia, Brazil, Finland, Turkey and United States of America.

SEARCH APPOINTED BRAY AGENT

BRAY CONSTRUCTION EQUIPMENT, LTD., Feltham, Middx., have appointed Wm. G. Search, LTD., Whitehall Road, Leeds, their sole agents in Yorkshire, Lancashire, North Wales and Cheshire, for their range of hydraulic loading shovels.

BRITISH STANDARDS**Steel Columns for Street Lighting**

AMARKED advance in the usefulness of this specification (B.S. 1840)—now revised—is its inclusion of requirements for columns made from steel plate, sheet and strip (as well as from steel tube—the only material specified in the 1952 edition).

Specifically, the 11-page publication deals with the materials for and the design of steel street lighting columns with or without bracket arms. The columns, however, are not intended to support overhead wiring.

Concise information is provided on: methods of construction; the fitting of the control gear; recommended depths to which the columns should be sunk into the ground; the connections for lantern fixing; protection against corrosion; and the maximum stresses and deflections permissible.

Potential purchasers will find particularly helpful the standards' list of 14 items of information to be supplied when submitting inquiries or orders. Price 4s.

Copies of this British Standard may be obtained from the British Standards Institution, Sales Branch, 2 Park Street, London, W.1.

NEW TEXTURED COATING FOR BUILDINGS

A new material for the coating of metal or masonry surfaces is claimed to be weather and fire-resistant, waterproof, and to have special qualities of sound absorption.

Called Kenitex, it is an American product, applied by high-pressure spray equipment. It is from 10 to 20 times as thick as an ordinary paint, and is said to withstand all ordinary building movement, expansion and contraction.

The formulation of the coating is based upon a durable, waterproof synthetic base known as Ken-Plaz 6-10. It is pigmented with zinc oxide and contains fungicides and Perlite, an asbestos and mica mixture.

Kenitex is being manufactured under licence in Britain and France by Kenitex Textured Coated, LTD., Spirella House, Oxford Circus, London, W.1. The company is owned jointly by Gordon Felber and Co., LTD., and R. and H. Wale (Joinery), LTD., Gamlingay, Beds.

MINIATURE FLUORESCENT FITTING

HEYES AND CO., LTD., Wigan, have developed a new industrial lighting fitting designed to take two 21in. 13-W miniature fluorescent tubes. Known as the type 1316 Fluolacent, the fitting has an opal perspex cover, hinged at one end and retained by one fixing screw at the other.

The Fluolacent has an aluminium base plate with raised edges to accommodate a rubber seal. The lamps are mounted on a detachable steel plate beneath which the two sets of control gear are located. The fitting is in cast aluminium with a silver hammer enamel finish. Its dimensions are: length, 2ft. 3in.; width, 5 $\frac{1}{2}$ in.; depth, 3 $\frac{1}{2}$ in.

HELPING C LICENCE OPERATORS

A national traffic committee is being set up by the Traders' Road Transport Association to ensure that the essential requirements of C licence operators are not overlooked or neglected.

Legislation such as the Road Traffic and Roads Improvement Bill is an example of the kind of proposed measure coming within the sphere of operation of the committee.

The committee will be concerned with England and Wales. The T.R.T.A. Scottish Division is appointing a similar body for Scotland.

SUBMERSIBLE DRAINAGE PUMP

AC.E. MACHINERY, LTD., Porden Road, London, S.W.2, are now marketing the Ace/Weda pump, which is a fully submersible drainage unit which can be carried by one man.

It is constructed in lightweight alloy metal, having corrosion resistant properties, and incorporates a 5-h.p. electric motor with a maximum output of 300 Imp. gallon per min. The motor is constructed with built-in automatic thermal contactor releases which prevent overloading or overheating due to dry running or blockage.

TARMAC ACQUIRE TAYLORS (CROOK)

The Board of Tarmac, LTD., announce that the whole of the issued capital of Taylors (Crook), LTD., has now been acquired by Tarmac, LTD. The consideration for this purchase is the issue of 133,333 Ordinary shares of 10s. each in the capital of Tarmac, LTD., and a payment in cash amounting to £100,000. An application for a quotation for these Ordinary shares has been made to the Stock Exchange.

The principal business of Taylors (Crook), LTD., is the processing of blast-furnace slag of South Durham Steel and Iron Co., LTD., at West Hartlepool and Cargo Fleet, near Middlesbrough.

ROBINSON FORM MARKETING COMPANY

E. S. and A. Robinson (Holdings), LTD., have formed a new company—Robinson Building Techniques, LTD., with a head office at Redcliffe Street, Bristol—to market a range of building materials manufactured by companies within the group.

Initially the products will include various laminated building papers, aluminium and other reflective foils for thermal insulation of buildings, and expendable cardboard formers for forming ducts and voids in concrete.

READY MIXED CONCRETE'S ACQUISITION

Ready Mixed Concrete, LTD., have purchased the entire business of Sheffield Ready-Mixed Concrete Company, Holywell Road, Sheffield, 4.

In order to bring the company into line with their existing policy, the name has been changed to Ready Mixed Concrete (Sheffield), LTD., and the new company will control two plants on the one site at Holywell Road and one plant at Storforth Lane, Chesterfield.

Mr. Victor Baggott is being retained as general manager.

VICKERS ONIONS' PUSHER PLATE

An attachment for the rapid conversion of the universal dozer blade to a push-loading unit without reducing dozing efficiency is announced by Vickers Tractors. This pusher plate, one of the latest additions to the Vickers Onions range of earthmoving equipment, is quickly detachable when not required.

NEW PLASTIC GLAZE SURFACING

A plastic glaze surfacing with a high resistance to chemicals and greases has been introduced by Corrosion, LTD., Southampton. Called Polytile it dries with a high gloss hardness and can be applied by spray or brush to most materials. It is available in a range of colours.

Trade Section

MOBILE POWER SOURCE GIVES DIRECT DRIVE

A MOBILE power source, enabling a single engine to supply power direct to the equipment which has to be driven as well as to the transmission of the vehicle, has been introduced by The Powertruc Co., Ltd., 109 Elephant Road, London, S.E.17.

Known as the Powertruc, the vehicle consists basically of Ford Thames three-quarter-ton components and is powered by the Ford 592E four-cylinder diesel engine, developing 62.5 b.h.p. at 2,250 r.p.m., one hour rating B.S.S.

An important feature of the machine lies in the provision of direct drive, through a Metalistik disc coupling, to the equipment in use. As no gears are employed, no power loss is sustained, allowing the full capacity of the engine to be exploited.

Further advantages claimed for the Powertruc are those of engine life and compactness. The former derives from the use of a single engine for both equipment and mobility, eliminating the need for cold starts several times a day. Compactness is achieved for the same reason, a single engine and the equipment to be driven being mounted on what is essentially a lightweight truck.

The engine, which can be forward-facing or rearward-facing, is mounted behind the cab on a full-length sub-

frame which is fitted to cross-members above the rear springs. This arrangement successfully distributes the weight of the engine and equipment over the springs, and not on the basic frame of the vehicle. The sub-frame can be modified to suit the application for which it will be required.

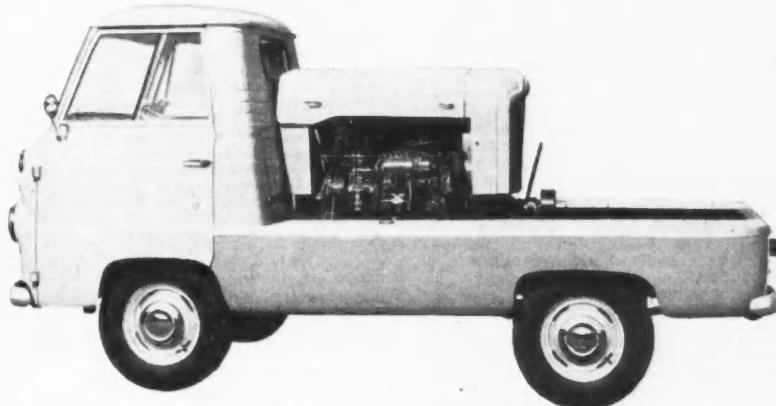
An overcentre type of clutch, the size of which is dependent on the equipment to be driven, is provided with an operating lever at the coupling end of the engine.

By virtue of a transfer box, which can reverse the direction and rotation of the drive, the output speed is stepped up to give a good road speed compared with the engine revolutions, and torque output is scaled down to the level normally required for the movement of the vehicle.

A small generator situated within the cab forward of the transmission chain, is driven through an auxiliary clutch, and can be used for emergency or flood lighting on site in conjunction with the equipment being powered.

Auxiliary equipment can also be driven from this end of the engine through twin shafts which give a direct drive in either a clockwise or anti-clockwise rotation.

A large number of applications exist for the Powertruc, which can provide full power for such equipment as compressors, generator sets, welding sets, pumps, heaters, and similar items of plant.



Powertruc, showing space at the rear for mounting the driven equipment

£2M. PYREX EXPANSION PROGRAMME

James A. Jobling and Co., Ltd., Sunderland, have announced a £2m. expansion programme, to be carried out within the next few years, which will increase their production of Pyrex glass by 50 per cent. Most of this sum will be spent on the acquisition of 19 acres of land in Sunderland near the present factory, and the building there of factory extensions and a new main warehouse.

PAINT FIRMS MERGER

A merger between Lewis Berger and Sons, Ltd., and the Jenson and Nicholson Group has been announced. The new group, to be known as Berger, Jenson and Nicholson, will have eight directors, four from each of the present companies.

The terms of the merger are 19 Berger 4s. ordinary for every eight Jenson 5s. ordinary and 11 7 per cent. Berger preference shares for every 10 Jenson 7 per cent. preference.

ASSOCIATED PORTLAND CEMENT'S CANADIAN INTEREST

Associated Portland Cement Manufacturers, the Blue Circle group, have acquired 10 per cent. of the 2,400,000 Common shares of no par value in Canada Cement at a cost of about \$7.8m. (£2.8m.).

Canada Cement is the biggest cement producer in Canada and operates nine manufacturing plants in various parts of the country with an annual output of 4,000,000 tons.

FIVE-SPEED GEARBOX FOR B.M.C. TRUCKS

A new 5-speed gearbox is now available as optional equipment on all versions of Austin and Morris 7-ton "702" trucks in conjunction with either single or two-speed axles. Of relatively simple but rugged construction, the new gearbox has usefully spaced gear ratios to cover a wide variety of operating conditions. Fitted in lieu of the 4-speed unit, the new gearbox costs £60.

THRUST BORER FOR PILOT HOLES

A SMALL hydraulic thrust boring machine which can be operated by one man has been designed by E. Pass and Co., Ltd., Denton, Manchester, for boring pilot holes under roadways to accommodate cables or small diameter mains.

The machine measures 2ft. by 1ft. and



Pass hydraulic thrust borer

is capable of exerting a thrust load of eight tons to the boring head. The single ram is operated by a twin piston double-acting pump housed in the main frame of the machine and connected by high pressure flexible hose.

The carriage of the borer is spring return actuated by a pressure relief valve on the pump. Four thrust positions are provided on the carriage to facilitate the progressive entry of the boring head into the subsoil and a retaining clamp is fitted to prevent the boring rod from lifting in the machine carriage during the thrusting operation.

When the hole has been thrust bored, the machine may be reversed into the excavation and the rods withdrawn bringing with them the service or cable by means of a special adapter.

NCK/RAPIER SALES AGREEMENT

A new arrangement has been made for NCK/Rapier, Ltd., 32 Victoria Street, London, S.W.1, to be exclusive selling agents in most of the eastern hemisphere for the Koehring Company of America. The agreement will operate primarily for Koehring excavators and cranes but an extension of the activity eventually to cover road and building equipment and other Koehring products is likely.

It is expected that NCK/Rapier sales of the Koehring plant will be substantial in the Middle East, India, Singapore, Australia and New Zealand.

PIPE BENDER RANGE EXTENDED

Chamberlain Industries, Ltd., Staffa Works, Argall Avenue, London, E.10, have added new machines to their existing range of open frame benders to cover all applications for bending N.B. pipe from $\frac{1}{2}$ in. to 3in. and conduit pipe from $\frac{1}{2}$ in. to 3in.

Hydraulically operated, the machines incorporate an open frame feature permitting unrestricted bending in long lengths of pipe in all planes. Various forming dies are available with each machine.

Trade Section**NEW COMPANIES**

The undermentioned particulars of new companies recently registered are taken from the daily register compiled by Jordan and Sons, Ltd., company registration agents, 116 Chancery Lane, London, W.C.2:-

R. M. Brown, Ltd., North Road Saw Mills, Queens Grove, Longsight, Manchester, 12, builders. £100. Directors: Rowland M. Brown and Doris Brown, 12 Woodlands Road, Heaton Mersey, Stockport, Cheshire.

Jacklin-Goodwin Construction, Ltd., 11a Eastgate, Louth, builders. £1,000. Directors: Noel D. Goodwin, 45a Victoria Road, Louth; George E. Jacklin, Mayfield Garth, Somerton Gate Lane, Waddington.

J. Chapman, Sons and Warrell, Ltd., 56 High Street, Sunninghill, Berks., builders. £10,000. Directors: Joseph E. Chapman, 19 Kings Road, Sunninghill; Leslie E. Chapman, 9 High Street, Sunninghill; Arthur C. Warrell.

Strongcrete, Ltd., ready mixed concrete. £100. Directors to be appointed by subscribers. Subscribers: Stella Allen and Mary K. Salter, Barrington House, 59/67 Gresham Street, London, E.C.2 (clerks).

Jefferies and Standing Bros., Ltd., Blacklands Fencing Works, Clare Park, East Malling, near Maidstone, fencing manufacturers and builders. £4,000. Directors: Wilfred S. G. Jefferies, Highways, 104 Poplar Grove, Maidstone; Wm. A. Jefferies, 49 Allington Way, Maidstone; Arthur Standing and Geo. A. Standing.

D. and E. Smith (Neath), Ltd., engineers and contractors. £2,000. Directors: Daniel Smith and Mrs. E. Smith, 8a James Street, Neath.

Southfields Builders (Loughborough), Ltd., 22 Market Place, Loughborough. £1,000. Directors: Ernest E. Cumberland, junior, and Mrs. Sylvia E. Cumberland, 26 Castle Hill, East Lake, Notts.

K. M. Sayner and Co., Ltd., civil engineers. £1,000. Directors: Kenneth M. Sayner, Mrs. Ruth M. Sayner and Mrs. Rose A. Sayner, Barfholms, Baffham Lane, Brayton, Selby.

Joseph Groarke, Ltd., 90 Ackers Road, Stockton Heath, near Warrington, builders. £5,000. Directors: Joseph Groarke and Elsie Groarke, 90 Ackers Road, Stockton Heath, near Warrington.

Francis and German, Ltd., Shorthorpe Lodge, 46 Shorthorpe Road, Farnham, Surrey, public works contractors. £2,000. Permanent directors: Edith F. Owston, 7 Shorthorpe Crest, Farnham; Joseph W. Knighting, 3 Northumberland Avenue, Newcastle upon Tyne, 12; Frank W. German, 10 Shorthorpe Crest, Farnham.

D. T. Moore (Nelson), Ltd., builders. £4,000. Directors: David L. Davies, Cefn Coed, Abercynon, Glam.; Danzil T. Moore, Ty Bryn, Llanfawd Road, Nelson, Glam.

Styled Buildings, Ltd., builders. £1,000. Director: Joan Nelson, The Style Centre, Spencers Wood, Reading.

Batty Brothers (Builders), Ltd., 77 Chestnut Road, London, N.17. £500. Directors: Leonard C. Batty, 77 Chestnut Road, London, N.17; Edward W. Batty, 94 Beaconsfield Road, London, N.17; Stanley G. Batty.

M. L. M. Contractors (Kidwelly), Ltd., Felindre Yard, Mynydd-y-Garreg, Kidwelly, Carmarthenshire, public works contractors. £6,000. Permanent directors: Ernest M. Morgan, Y-Neth, Mynydd-y-Garreg, Kidwelly; Arthur E. A. Lewis, 5 Heol, Gwelfor, Mynydd-y-Garreg; Hywel Morgan.

J. Howard (Demolition Contractors), Ltd., Gatacre Road, Ipswich. £20,000. Directors: Stanley Howard, 21 Dales View Road, Ipswich; Charles F. Howard, 17 Geneva Road, Ipswich; Mrs. Edith M. B. Howard, Thomas G. Howard and Jack C. Howard.

Hengcastle Builders, Ltd. £100. Directors to be appointed by subscribers. Subscribers: Jean Herbert (company director) and Thos. A. Herbert (barrister), 156 Strand, London, W.C.2.

H. Jeffery and Son, Ltd., 103 Hartfield Road, London, S.W.19, building contractors. £1,000. Directors: Geoffrey I. Orchard, Thrupp House, Thrupp, Stroud, Glos.; Leslie R. Hayes, Brick Cottage, Blue House Lane, Oxted, Surrey.

G. Walker and Son (West Bromwich), Ltd., 80 Dartmouth Street, West Bromwich, builders. £1,000. Directors: George Walker, The Drumsticks, Martley, near Worcester; Malcolm G. Walker, 80 Dartmouth Street, West Bromwich.

Terraform, Ltd., 270 Upper Tooting Road, London, S.W.17, builders. £100. Director: Douglas F. R. Newman, 27 Bambridge House, Wenvoe Estate, London, S.W.18.

Jos. M. Barber, Ltd., building and civil engineering contractors. £500. Directors: Joseph M. Barber and Mrs. R. Barber, 59 Church Street, Stanground, Hunts.

Bowden and Walsh, Ltd., builders. £1,000. Directors: Bernard Walsh, 155 Belfield Road, Rochdale; Edward Bowden, 44 Dewhurst Road, Syke, Rochdale; Margaret Walsh and Monica Bowden.

W. E. Gibbs, Ltd., The Workshops, Victoria Park Road, Torquay, builders. £4,000. Directors: Wilfred E. Gibbs, Clover St, Marychurch Road, Torquay; Michael J. Rich, 19 Tor Church Road, Torquay.

Summit Builders (Fylde), Ltd., 18 Edward Street, Blackpool. £500. Permanent directors: John Escott, 12 Ludlow Grove, Blackpool; Peter Levins, 20 Singleton Avenue, Lytham St. Annes; Eric Wyatt, States Road, Lytham St. Annes.

Monolith (Builders), Ltd. £100. Directors to be appointed by the subscribers. Subscribers: F. A. Cowan (Solrs. manager) and A. L. Leddman (clerk) both of 9-12 Cheapside, London, E.C.2.

Edward Gait Construction, Ltd., 17 Halfway Avenue, Luton. £3,000. Directors: Not named. Subscribers: Edward Gait, Combe Lacy, 174 Park Road, Kingston-on-Thames, Surrey; Denis G. Banwell, 11 Woburn Road, Heath and Reach, Beds.

Belmont Construction Co., Ltd. £2,000. Permanent directors: Leslie J. Moore, 38 Ingram Road, Dartford, Kent; Reginald W. White, 4 High Beeches, North Cray, Hainault, Ltd., builders. £100. Directors: Reginald Hindle and Ronald Hindle, 66 Stanhope Road, Sheffield, 12.

W. A. Parkes and Co., Ltd., 14 Edinburgh Drive, Ickenham, Middlesex, builders. £2,000. Directors: William A. Parkes and Mrs. Gwen L. Parkes, 14 Edinburgh Drive, Ickenham, Middx.; Wally F. Taylor, 89 Mayfield Gardens, Hanwell.

D. J. Fletton, Ltd., builders. £500. Directors: Douglas J. Fletton, 6 De Vere Road, Thrapston, Northants; Jas. D. Scott, Stoath House, Brigstock, Northants.

Camberwell Plant Hire, Ltd., 19 Claverdale Road, S.W.2. £100. Director: Mrs. Mary Coffey, 14 Pinner House, Camberwell, S.E.5. Woodcraft Construction, Ltd., Silvercroft, 5 High Street, Limpsfield, Surrey, builders. £300. Directors: Philip J. Everett, Silvercroft, 5 High Street, Limpsfield, Surrey; Wm. B. Rivett, 20 Beeston Lane, Farningham; and John Bradley.

Sudbrook Concrete Products, Ltd., 6 Park Grove, Cardiff. £500. Permanent director: Fredk. S. Williams, 61 Atlas Road, Cardiff.

Adicon, Ltd., Bush Lane House, Bush Lane, E.C.4, concrete and concrete products. £100. Directors: Paul M. M. Banks, Brookhill, Pinemount Road, Camberley, Surrey (company director); Wilfred H. A. Mumby, Nant-y-coed, Rectory Fields, Great Pardon, Essex.

J. and W. Construction, Ltd., builders. £500. Permanent directors: James Conwell and Mrs. W. A. Conwell, Nutwood, Longdown Road, Sandhurst, Berks.

A. S. Mildwater and Co., Ltd., 25b High Street, Swindon, builders. £100. Directors: Alan S. Mildwater, West Cottage, The Street, Liddington, near Swindon; John Mason, 58 Bean Road, Bexleyheath.

K. D. Walker (Balham), Ltd., builders. £100. Directors: Kenneth D. Walker, 47 Gaskarth Road, Balham, S.W.12; Michael K. Jeffrey, 37 Stanger Road, South Norwood, S.E.25.

Roy Williamson and Co., Ltd., 19 Claverdale Road, S.W.2, builders. £100. Directors: Roy Williamson and Joan M. Williamson, 86 Wood Vale, S.E.23.

Saxon Contractors, Ltd., Cedar Lodge, The Ridgeway, Radlett, builders. £1,000. Directors: Alfred W. Saxon, Cedar Lodge, The Ridgeway, Radlett; Alan G. Thompson, 34 Willow Road, Cockfosters.

Alces Reynolds, Ltd., Reynolds, Nugent's Park, Hatch End, Middx., builders. £1,000. Directors: Robert C. Watson, 29 Linksway, Northwood, Middx.; Wilfred C. Watson, Reynolds, Nugent's Park, Hatch End, Middx.

Tamar Construction Co., Ltd., Ford Park Chambers, Ford Park Road, Plymouth, Devon, builders. £100. Directors: To be appointed by subscribers. Subscribers: Reginald Richardson, 90 Hermitage Road, Mannamead, Plymouth (accountant); Raymond F. Fordham, 55 Hermitage Road, Mannamead, Plymouth (accountant).

Affrage, Ltd., builders. £100. Directors to be appointed by subscribers. Subscribers: Stanley H. Lucas and Francis A. Dean, 6 Surrey Street, W.C.2.

Leonard Bickell and Co., Ltd., builders. £100. Directors: Leonard W. Bickell and Pauline E. Bickell, 10 Rendlesham Road, E.3; Victor Borrett, address not stated.

Rondor Builders, Ltd., 2 Bentinck Street, W.I. £1,000. Directors: Ronald Mills and Mrs. Dorothy Mills, 30 Northchurch Road, N.I.

Costain and Press (Libya), Ltd., 111 Westminster Bridge Road, S.E.1, builders. £100. Directors: Not named. Subscribers: John F. Robinson, 403 Keyes House, Dolphin Square, S.W.1; Donald Holmes, 77 New Street, Hill, Sundridge Park, Bromley, Kent.

Burlinson-Walshe, Ltd., 40 Macfarlane Road, Shepherds Bush, W.12, builders. £100. Directors: Edmund Burlinson, 11 Ormiston Grove, Shepherds Bush, W.12; Michael M. Walshe, 40 Macfarlane Road, Shepherds Bush, W.12; Mrs. Audrey M. Burlinson and Mrs. Greta M. Walshe.

Kings Norton Plant Installation and Co., Ltd., Maney House, Sutton Coldfield, contractors. £1,000. Directors: Howell T. Griffiths, 14 Carlton Avenue, Streetly, Staffs.; Thos. Hogarth, 18 Oakley Road, Redditch; Francis J. Moan, Hollybank Road, Kings Heath, Birmingham, 14.

L. H. Mildwater and Sons, Ltd., 1 Woolwich New Road, S.E.18, builders. £7,500. Directors: Leonard H. Mildwater, 45 Knoll Road, Bexley; Roy L. Mildwater, Easedale, Mottingham Lane, S.E.9; Laurence D. Mildwater and Violet M. Mildwater.

Peter Jackson (Builder and Contractor), Ltd., Jacksons Yard, White Lund, Morecambe and Heysham. £1,000. Directors: Peter Jackson and Mrs. June K. Jackson, 15 Eldon Grove, Morecambe.

Wharfedale Building Co., Ltd., 1 Thorn Lane, Bradford, 9. £2,000. James C. Kunz, 1 Thorn Lane, Bradford, 9, signs as director.



This photograph was taken recently at the site of the Metropolitan Water Board's new reservoir at Walton-on-Thames. A bulldozer is seen pushing ballast on to a 1,000-gauge Fablon polythene film, laid over the perimeter clay. Three-quarters of a mile of the film has so far been used to keep the moisture in the clay and to keep the ballast away from it. The main contractors are W. and C. French, Ltd.

Current Constructional Activities

PROJECTS

CONTRACTS

AWARDS

THIS editorial feature provides readers with a comprehensive news service covering forthcoming private and public construction work. Commencing on this page information is given concerning future projects followed by details of tenders being invited. In the third section will be found news of tenders recommended for acceptance, tenders accepted and contracts awarded. Attention is also drawn to the advertisements covering contracts and appointments appearing in the front part of the *Journal*.

BUILDING AND DECORATING

(See also Housing Schemes)

Adlington, Lancs.—C.C. have approved the erection of a branch library at the junction of Railway Road and Highfield Road. Estimated cost £1,200.

Ayr.—South Western Fire Area Board propose to erect a station and area headquarters at Content House. Estimated cost £85,700.

Batley, Yorks.—B.C. have approved in principle proposal for erection of bank premises at Crown Street-Commercial Street corner, for Lloyds Bank, Ltd.

Borough Engineer to prepare scheme for redevelopment of Upper Commercial Street to provide for two-storey buildings, the upper storeys to serve as either flats or offices.

Bedlington and Wallington, Surrey.—B.C. recommended to appoint V. Burr and Partners, 85 Gower Street, London, W.C.1, as architects, to prepare sketch plans for the erection of a building incorporating accommodation suitable for providing reception rooms, a restaurant, catering facilities, cloakrooms and a caretaker's flat on site of Grange Mansion.

Bedfordshire.—E.C. have approved the sale of land at West End Farm, Silsoe, as a site for the proposed National College of Agricultural Engineering. Estimated cost £200,000.

Biggleswade, Beds.—U.D.C. to submit to Ministry for approval plans for alterations to Council offices. Estimated cost £3,300.

Bilston, Staffs.—South East Staffordshire Divisional Executive have approved preliminary plans for a two-form entry school at Stowlangton estate.

Birkenhead, Cheshire.—Liverpool Regional Hospital Board have approved scheme for adaptations at The Priory, Upton Road. Estimated cost £20,000.

Birmingham.—City Council recommended to approve the erection of a hall to house locomotives as the first phase of a six-year plan for improving the Museum of Science and Industry.

Bishop Auckland, Dur.—U.D.C. to appoint private architect for swimming baths in Woodhouse Lane to cost £40,500.

Bristol.—E.C. have approved plans for a hostel at the former Horfield Barracks playing fields for the College of Science and Technology; Ashton Court as a new site for the West of England College of Art.

E.C. have approved an extension scheme for Whitehouse Youth Club, Hartcliffe. Estimated cost £4,000.

Caister, Norfolk.—Co. E.C. have approved sketch plans for a modern secondary school at Caister. Estimated cost £94,500.

Cardiff.—Hasker and Hall, London House, High Street, Knowle, War., are the architects for the factory development at Pengam Moor, for The Rover Co., and the following consultants have now been appointed: Crosher and James, 329 High Holborn, London, W.C.1, quantity surveyors; T. Bedford and Partners, 41 New Bond Street, London, W.1, consulting engineers for the steelwork and foundations; and Hoare, Lea and Partners, 52 Green Street, London, W.1, electrical consultants. Estimated cost £6m. Work is expected to commence before the end of the year.

Chelmsford, Essex.—C.C. have approved amended details of development in the planning permission granted at printing works Bradford Street, for The Essex Chronicle series of newspapers. Estimated cost £60,000.

Chester, Essex.—North East Metropolitan Regional Hospital Board are considering scheme for alterations to ward entrances at Severalls Hospital. Estimated cost £2,100.

Colne Valley, Yorks.—West Riding E.C. have submitted to the M.E. plans for rehabilitation of Netherthong Primary School. Estimated cost £20,000.

Consett, Dur.—Plans are being prepared for two shops in Shakespeare Street for L. W. Mortimer, A. Rossi, architect, 88a Medomsley Road, Consett.

Corby, Northants.—County Architect has prepared plans for an old people's home off Gainsborough Road. Estimated cost £45,000.

Crook, Dur.—Ministry have approved U.D.C.'s proposal to earmark 105 acres of land at Low Willington for possible industrial developments.

Croydon, Surrey.—B.C. recommended to invite tenders from selected contractors for the erection of new municipal offices on the west side of Fell Road. Estimated cost £375,000.

B.C. recommended to grant planning permission, subject to approval, for the erection of an office block with shops on ground floor and basement car park on site of Congregational Church, George Street, for Commercial and General Investments, Ltd., 19-20 Grosvenor Street, London, W.1; car showrooms and offices, car service depot and car park at 454-456 London Road, for Mayday Motors, Ltd., Mayday Road; showrooms and offices at 5b Brunswick Road, for Ruislip Exeter (Investments), Ltd., 56 Grosvenor Street, London, W.1.

Darlington, Dur.—C.C. have appointed J. Clayton and Deas, High Row Chambers, architects for erection of High Coniscliffe County Primary School.

E.C. have approved spending £7,530 on classrooms for practical instruction at Salters Lane Open Air School.

Daventry, Northants.—R.D.C. recommended to approve the modernisation of 10 houses at Dols Hill housing estate, Byfield; erect six garages at rear of Manor Road housing repair depot.

Dawlish, Devon.—U.D.C. have approved revised plans for the erection of a public hall.

Dorchester.—C.C. have approved plans for the erection of a new county health clinic. Estimated cost £38,800.

Driffield, Yorks.—E.C. to convert the former infants' school premises into youth centre. Estimated cost £5,700.

Durham.—C.C. have appointed Turner and Townsend, 71-73 Linthorpe Road, Middlesbrough, quantity surveyors for proposed garages, workshops and stores at Fire Brigade Headquarters.

Durham.—City Council have invited property owners in Saddler Street to discuss a scheme for improving the appearance of shop premises, etc. Cordingley and McIntyre, Owengate, Durham, are the architects.

C.C. are to erect a health centre at Leam Lane, Felling, and a site has been selected; County Health Committee planning the erection of a junior and senior training centre at Durham on the Aykley Heads estate.

Eastbourne, Sussex.—B.C. recommended to approve scheme for the erection of office new accommodation, implement store and new entrance at Devonshire Park, estimated cost £8,250; plans for the provision of store and workshops for groundsman at Princes Park.

B.C. hope to invite tenders in mid-October for the erection of the Congress Theatre, architects for the scheme are Bryan and Norman Westwood and Partners, 21 Suffolk Street, London, S.E.1, the structural engineers are Ove Arup and Partners, 8 Fitzroy Street, London, W.1, and the mechanical and electrical engineers are A. F. Myers and Partners, 147 Victoria Street, London, S.W.1.

East Mersea, Essex.—Co. E.C. have approved plans for the completion of the permanent kitchen and dining accommodation, and sheltered sleeping facilities and for the improvement of the swimming pool at East Mersea Youth Camp.

Essex.—North East Essex Divisional Education Executive have approved in principle plans for the erection of two junior and infants' schools at Lawford and one at Mistley.

Felling, Dur.—C.C. have appointed Tarren and Caller, 26 Front Street, Sedgefield, architects for proposed community centre, Leam Lane.

Fort William, Inverness.—Dean of Guild Court have approved plans for a new store for F. W. Woolworth and Co., Ltd., 242 Marylebone Road, London, N.W.11. Estimated cost £29,000.

Frome, Som.—North East Somerset Hospitals Committee have approved scheme for the reorganisation of accommodation at Frome Victoria Hospital. Estimated cost £4,000.

Gateshead, Dur.—Newcastle Breweries, Ltd., Haymarket, Newcastle upon Tyne, are to rebuild and extend the Shakespeare public-house, Fife Street. The firm have their own architects' department. John T. Bell and Sons, Market Street Chambers, Newcastle upon Tyne, are to construct premises in Jackson Street, High West Street and on the east-west road link. Buildings will be mainly three storeys high comprising shops, offices and showrooms. Plans are being prepared by Marshall and Tweedy, 36 Blackett Street, Newcastle upon Tyne, for rebuilding 225-9 High Street for Ideal Service (Purveyors) Ltd.

Tenders to be invited soon for extensions (35,000 sq. ft.) for the Bren Manufacturing Co., Team Valley, G. H. Gray and Partners, architects, 8 Portland Terrace, Newcastle upon Tyne.

Glasgow.—Executive Council of the Highlanders' Institute, Elmbank Street, propose extensive alterations and additions to the Berkeley Ballroom, Berkley Street. Estimated cost £60,000.

Gloucestershire.—E.C. to apply for sanction to borrow £185,390 for the erection of Eastcombe Manor Secondary School.

Halifax, Yorks.—Marks and Spencers, Ltd., Southgate, are to be extended.

Harrogate, Yorks.—Associated Chemical Companies, Ltd., Stockton-on-Tees, have applied for planning permission to build group research laboratories and head offices in the grounds of the acquired Beckwith Knowle, Otley Road. Estimated cost £250,000.

Harwich, Essex.—Co. E.C. have approved plans for the provision of a hall and coffee bar adjoining classrooms at Harwich County Youth Centre, The Grange. Estimated cost £6,500.

Hatfield, Herts.—R.D.C. have site at Gallycroft, off Queensway, for the erection of a swimming pool.

Haverhill, Suffolk.—U.D.C. have approved in principle outline proposals prepared by P. Barfoot, architect, 27 Thorofare, Ipswich, for the new council offices.

Houghton-le-Spring, Dur.—C.C. recommended to seek Home Office approval for the erection of a remand home for boys in the grounds of Penshaw House residential nursery at Penshaw. Estimated cost £57,000.

Huddersfield, Yorks.—B.C. General Purposes Committee have approved commencement of part of new civic centre. Borough Architect to prepare, in consultation with the chief officers concerned, plans which will provide accommodation of 13,500 sq. ft. for the Treasurer's Department, 9,000 sq. ft. for the Education Department, and 800 sq. ft. for canteen and rest room facilities for the two departments.

Hull.—Frederick Gibberd, 8 Percy Street, London, W.1, is preparing plans for erection of a new museum next to the central police headquarters in Queen's Gardens.

Ise of Ely.—E.C. have approved the provision of additional teaching accommodation at the Isle College. Estimated cost £19,250.

Kensington.—L.C.C. town planning permission is being sought for erection of a 12-storey building, containing petrol filling station, car showrooms, public-house, bank, showrooms, offices, lecture rooms and cinema canteen, at 201-221 Holland Park Avenue, 204-214 Holland Road, 22 Lorne Gardens, 223-227 Holland Park Avenue, for which the architects are R. S. Seifert and Partners, 28 Great Ormond Street, W.C.1.

King's Lynn, Norfolk.—E.C. propose the erection of North Lynn Community Centre. Estimated cost £7,500.

Lancaster, Dur.—Shell Max and B.P., Ltd., Northumberland Street, Newcastle upon Tyne, are to erect a filling station at Rowley Farm. W. and T. R. Milburn, architects, 4 Grange Terrace, Sunderland.

Leeds.—Town Planning Committee have approved application submitted by Arnold G. Wilson, Ltd., Regent Street, for extensions to existing garage and showroom premises, and outline application for erection of an R.C. church on land off Grove Lane and Grove Road, Headingley.

Yorkshire Electricity Board.—are to erect new building at junction of Gelderd Road and Beeston Ring Road.

Leek, Staffs.—U.D.C. to consider the erection of a further 42 garages at rear of Haregate Hall.

Leicester.—City Council have appointed P. H. G. Chamberlin of Chamberlin, Powell and Bon, 15 Avenue Studios, Sydney Mews, London, S.W.3, as consultant architect, for the proposed civic centre. Estimated cost £1.6m.

Lichfield, Staffs.—C.C. recommended to approve the purchase of land at Levetts Fields as a site for the fire and ambulance station. Estimated cost £30,000.

Loughborough, Leics.—B.C. recommended to prepare detailed plans for the erection of swimming baths on part of the aerodrome site at Derby Road. Estimated cost £150,000.

Maidenhead, Berks.—B.C. recommended to prepare plans for the erection of 10 shops and maisonettes at Cox Green; invite tenders in due course for the provision of 74 garages at various sites.

Maldon, Essex.—Co. E.C. have approved plans for the erection of a hall with stage, cloakrooms and dressing rooms at Maldon Youth Centre, The Friary. Estimated cost £10,000.

Mansfield, Notts.—B.C. have approved application by Hardy's Kimberley Brewery Co., Kimberley, Bulwell, for the development of site at the junction of Westfield Lane and Redgate Street for the erection of a public house.

Melton Constable, Norfolk.—Co. E.C. have approved sketch plans for adaptations and extensions to Melton Constable Secondary Modern School. Estimated cost £20,000.

Middlesbrough, Yorks.—Plans approved for extending shop and store at 1-11 Newport Road for J. Newhouse, Ltd. Garbutt, Archibald and Archibald, architects, 23 Albert Road, Middlesbrough. J. G. L. Poulsou, 54 Albert Road, has prepared plans for metal store and profile cutting shop at Cleveland Dockyard for H. Baum and Co.

Mytholmroyd, Yorks.—West Riding E.C. to include in the 1961-62 building programme plans for extensions to the Calder High School. Work expected to commence next spring. Estimated cost £135,000.

Nailsworth, Glos.—U.D.C. to apply for sanction to borrow £6,556 for improving 20 houses at Nympsfield Road and Upper Hayes Road.

Co. E.C. to apply for sanction to borrow £105,275 for the erection of a secondary modern school.

Newcastle upon Tyne.—Quantities are being prepared for office additions at Portland Terrace for United Automobile Services, Ltd. The architects are Fennell and Badiley, Bridge End Chambers, Chester-le-Street, Durham.

Planning approval given for converting the Lyric Cinema, Heaton, into an arts centre for the People's Theatre. Work is expected to start in the autumn. The architects are Cackett, Burne Dick and Mackellar, 21 Ellison Place, Newcastle upon Tyne.

Plans prepared by L. Auton, Regent Buildings, York Road, West Hartlepool, for the erection of additional offices and loading bay at Benton Park Road for Newcastle and District Dairies, Ltd.; plans prepared for a four-storey building including offices and restaurant at Low Friar Street for D. Levey. The architects are Waring and Netts, 36 Jesmond Road, Wimpey and Co., Ltd., to erect three-storey office block and two-storey garage at 6-7 Fenwick Terrace. W. B. Edwards and Partners, 5 Clarence Buildings, are the architects for banking sub-offices at 329-331 Benton Road. It is proposed to erect parish hall for St. Stephen's Parish Church Council. The architect is C. S. Errington, 46 Grainger Street. Three-storey extensions are proposed to the Imperial Hotel, Jesmond Road, for Louis Hotels, Ltd. The architects are Waring and Netts, 36 Jesmond Road. Provincial Laundries, Ltd., are to erect office block, etc., at Benton Park Road to plans by Mauchlen, Weightman and Elwick, 12 Saville Row. Storey, Sons and Parker, Higham Place, New Bridge Street, are in touch with the planning authorities regarding a scheme for the erection of garage, workshops and showrooms for George Wilkins, Ltd., and the Minorities Garages, Ltd., in Benton Park Road. S. and G. Caravans, Ltd., Four Lane End, are to erect showroom and office buildings at Benton Park Road.

Northallerton, Yorks.—Local Hospital Management Committee is urging that priority be given to the erection of twin operating theatres at the Friage Hospital. P. H. Knighton is chief architect. Estimated cost £50,000.

Northumberland.—C.C. to erect a new health centre costing £35,000 at Longbenton and the approval of the Ministry is being sought. An ambulance depot, costing nearly £11,000, is planned at Prudhoe, and negotiations are in hand for the acquisition of the site.

Oldbury, Worcs.—Rank Organisation, Ltd., 11 Begrave Road, London, S.W.1, are seeking planning permission from B.C. for the construction of a 32-lane bowling alley at the Odeon cinema, Warley.

Oxford.—City Council recommended to apply for sanction to borrow £16,605 for the provision of a four-classroomed unit for infants at Horspath Road estate.

Paignton, Devon.—U.D.C. to apply for sanction to borrow £146,547 and £23,510, respectively for the construction of a summer pavilion at the sea front facing Torbay Road and developments at Goodrington holiday centre.

Portsmouth.—Eastney Cruising Association, Fort Point, Eastney, to apply to City Council for permission to construct a clubhouse at Hayling Ferry peninsula. Estimated cost £13,000 to £15,000.

Portsmouth.—E.C. have approved schemes for improved facilities at Portsdown Modern School for Boys, estimated cost £20,000; provision of additional science facilities at Northern Grammar School for Boys and Southern Grammar School for Girls, £9,000; adaptations to the chemistry laboratories at the College of Technology, £3,800; improved science facilities at Hilssea, Milton and Southsea Modern Schools for Girls, £3,000; provision of caretaker's lodge at Cliffdale Secondary School, £2,200; hall, indoor sanitary offices and other amenities at Drayton Road Infants' School, £12,000; an open-air practice swimming pool at a primary school, £1,500; changing accommodation, showers, etc., at Southsea Modern School for Girls, £3,000.

E.C. to apply for sanction to borrow £49,960 for new premises to replace the Beneficial Society's Infant School, Portsea.

Group Hospital and Management Committee considering the provision of a resuscitation unit adjacent to the Harold Pink Ward at the Royal Portsmouth Hospital. Estimated cost £1,500.

Ramsey, Hunts.—Home Office have approved the erection of a fire station at Ramsey for C.C. Estimated cost £14,000.

Richmond, Yorks.—R.D.C. Engineer has been instructed to proceed with preparation of a scheme for the development of caravan site at Catterick Camp.

Rochdale, Lancs.—B.C. recommended to approve site on the Healey Church side of Thrum Hall, approx. south of Holstein Avenue and north-west of Thrum Hall estate, for new R.C. Secondary School.

Rowley Regis, Staffs.—B.C. to submit to Ministry for approval revised plans for the crematorium. Estimated cost £11,500.

St. Asaph, Flints.—Welsh Regional Hospital Board recommended to approve plans for the erection of a prefabricated hutment at H.M. Stanley Hospital. Estimated cost £4,700.

St. Helens, Lancs.—B.C. to build new public abattoir on land off Church Street.

B.C. have approved in principle to the proposed new public baths being sited on Parr recreation ground at the Ashcroft Street end. Plans not yet prepared. Scheme in very early stages.

E.C. have approved phase three work on the new technical college, providing for workshops and other accommodation. Estimated cost £300,000.

St. Marylebone.—L.C.C. town planning permission is being sought for the following proposals: a six-storey parking garage at junction of Harley Street and Queen Anne Street, for which the architect is R. J. Husband, 126 Wigmore Street, W.1; offices flats and houses with garage accommodation at York Terrace West, York Terrace Mews, Nottingham Terrace and Marylebone Road, for which the architects are T. P. Bennett and Son, 43 Bloomsbury Square, W.C.1.

St. Neots, Hunts.—Co. Welfare Committee have approved sketch plans for improvements to the kitchen, dining room and lounge at Shortlands. Estimated cost £5,600.

Salford, Lancs.—City Planning Committee have approved plans for construction of social club, party headquarters and steward's flat at Seedley Terrace, for Ashfield Labour Club and Institute.

E.C. have approved erection of a further two classrooms at Salford Grammar School. Estimated cost £12,000.

E.C. have appointed Halliday and Agate, 2 Fountain Street, Manchester, architects for erection of the new Peel Park Technical College in Leaf Square.

Scunthorpe, Lincs.—B.C. recommended to prepare detailed drawings and obtain tenders for alterations to provide permanent office accommodation and the addition of a first floor to the Civic Theatre.

Selby, Yorks.—Plans approved for erection of a new church on the Staynor Wood estate. G. L. Thompson, 22 Park Street, Selby, is the architect.

Shrewsbury, Salop.—B.C. recommended to approve the provision of catering accommodation at the Music Hall. Estimated cost £13,500.

Brixton Development Co., Ltd., 22-24 Ely Place, London, E.C.1, have submitted to B.C. plans for a 20-acre factory estate at Harlescott, comprising 17 factory units.

Sidmouth, Devon.—Co. E.C. are preparing preliminary drawing for a new school to replace Woolbrook Secondary Modern School.

Solihull, War.—H. W. Weedon and Partners, 45 Calthorpe Road, Edgbaston, Birmingham, 15, are the architects for a shopping centre at High Street/Warwick Road/Hill Lane/Dury Lane, for Norwich Union Insurance Societies.

Southend-on-Sea, Essex.—B.C. recommended to approve site at Warrior Square for the construction of an indoor swimming pool.

B.C. have approved sketch plans for the erection of a central fire station at Sutton Road. Estimated cost £115,000 to £125,000.

Spenborough, Yorks.—B.C. have approved preliminary drawings submitted by the Ministry of Works for erection of new Post Office on the site of the Central Church, Cleckheaton.

Stafford.—R.D.C. to apply for sanction to borrow £2,375 for alterations and improvement of the public conveniences at Milford.

Stockton-on-Tees, Dur.—Newcastle Regional Hospital Board recommended to approve scheme for extensions at Stockton and Thornaby Hospital. Estimated cost £10,000.

Stockton-on-Tees, Dur.—Town Planning Committee have approved plans for a proposed R.C. secondary modern school in Bishopston Road West.

Stoke-on-Trent, Staffs.—E.C. recommended to apply for sanction to borrow £64,569 for the first instalment of extensions to the Elms Technical College.

Tow Law, Dur.—A new brickworks is to be built at Inkerman Colliery by Wolsingham Minerals, Ltd.

Tynemouth, Northumb.—James A. Jobling and Co., Ltd., Sunderland, are to construct a warehouse of 150,000 sq. ft. at West Chirton, North Shields.

Ulverston, Lancs.—U.D.C. have approved the erection of an ice-cream storage and distribution centre in North Lonsdale Road, for T. Wall and Son, Ltd., 59 Park Royal Road, London, N.W.10.

Wales.—Ministry of Agriculture are considering report on the erection of the proposed Welsh Agricultural College at Aberystwyth. Estimated cost £343,00.

Wallsend, Northumb.—R. Hood Haggie, Ltd., are seeking land for extending their rope works. F. Gibson and Co., Ltd., Haddicks-mill Road, Gosforth, have received planning approval for the construction of ready-mixed concrete factory at Bewicke Road.

Wandsworth.—L.C.C. town planning permission is being sought for 77 flats, 24 maisonettes and 60 garages at Primrose House and grounds, Clarence Lane, for Hartbog Investments, Ltd.

Warrington, Lancs.—Liverpool Regional Hospital Board hope to invite tenders in the autumn for development of the Sankey Hospital, near Warrington. Estimated cost £30,000.

Waterford, Eire.—Munster Chipboard Co., Scariff, Co. Clare, propose to erect a factory at Tycor. Estimated cost £350,000.

Wellingborough, Northants.—R.D.C. to submit to Ministry for approval, scheme for the modernisation of 22 houses at Little Harrowden, Little Irchester and Wollaston. Estimated cost £4,274.

Westminster.—L.C.C. town planning permission is being sought for the following proposals: Seven-storey building to include cinema, shop, offices and flats at Curzon Street Cinema site, for which the architects are Sir John Burnet, Tait and Partners, 10 Bedford Square, W.C.1; rebuilding as restaurant, shops and offices at 31-35 Panton Street, 45-51 Whitcomb Street, 23a, 23 and 25 Whitcomb Court (Stone's Chop House), for which the surveyor is A. Martin French, 14 Clifford Street, W.1.

West Suffolk.—C.C. have approved the erection of a county library at Bury St. Edmunds. Estimated cost £71,094.

Whitehaven, Cumb.—B.C. have approved plans for construction of a radioactive laboratory at College of Further Education, for C.C.

Wolverhampton, Staffs.—B.C. have approved, subject to M.E. approval, schemes for formation of craftroom at Prestwood Secondary School, house to form additional staff accommodation at Ryton Hall Special School and formation of additional form bases at Northicote Secondary School, estimated cost £2,500, £2,500 and £1,300, respectively; sketch plans for a central medical clinic at Red Hill Street, £19,274.

Worthing, Sussex.—B.C. recommended to approve scheme for improvement of Beach House Park pavilion including the provision of toilet accommodation, estimated cost £11,000; revised sketch plans for the adaptation of Selden School annexe as a school for sub-normal children, £50,000.

DEMOLITION

Aldershot, Hants.—B.C. to proceed, subject to Ministry approval, with scheme for the demolition of Park Mansion.

Belfast.—Ministry have approved City Council's slum clearance plan for the Upper Library Street area. The scheme includes the demolition of 1,300 houses and the provision of 1,022 dwellings mainly in blocks of flats, some of which will be 15 storeys high. Estimated cost £3m.

Birmingham.—Consistory Court have approved the demolition of St. George's Church, Hockley.

Whiston, Lancs.—R.D.C. have approved site clearance of about four acres of land to the east of Ellerslie Avenue, Eccleston, for residential development.

ELECTRICAL

Stockton-on-Tees, Dur.—Newcastle Regional Hospital Board recommended to install lift at Portrack Hospital. Estimated cost £1,000.

Wigan, Lancs.—B.C. to instal, subject to M.T. approval, new traffic signals at junction of King Street and Wallgate. Estimated cost £2,130.

GAS AND WATER SUPPLY

Cork, Eire.—City Council have approved improvement and extensions to water supply system, including a new 64-million gallon reservoir and the laying of 5,000yd. of 14in. main from Patricks Bridge to the Tivoli industrial site. Estimated cost £150,000.

Darlington, Dur.—B.C. have approved water mains extensions in Barnpton Lane, Haughton, estimated cost £1,900 and on the Glebe farm estate, back Nestfield Street, Grey Street, back Bruton Street and back Prescot Street, £2,940.

Horncastle, Lincs.—R.D.C. to apply for sanction to borrow £2,400 for provision of a 3in. water main from Keepers Corner, Hatton, to Langton Road, Panton.

Middlesbrough, Yorks.—Tees Valley Water Board have approved laying a length of 15in. water main in the Yarm and Egglecliffe area.

Millom, Cumb.—R.D.C. have approved for submission to the Ministry a Northern Area water scheme to serve parishes of Muncaster, Waberthwaite, Irton-with-Santon, Eskdale Driigg and Carleton, Bootle and Seascale. Estimated cost £161,300.

Newbury, Berks.—B.C. recommended to apply for sanction to borrow £1,550 for excavation works in connection with the provision of a water supply to Turnpike Road estate.

Richmond, Yorks.—R.D.C. consulting engineer to proceed with water scheme to supply Marske, Clints and four properties at Skelton.

Uttóxeter, Staffs.—Ministry to grant £3,000 towards the cost of R.D.C.'s water supply extension scheme for Newborough.

HARBOURS, PIERS AND SEA DEFENCE WORKS

Hythe, Kent.—Ministry to grant £17,700 towards the cost of B.C.'s scheme for 11 new groynes at Princess Parade.

North Shields, Northumb.—Smith's Dock Co., Ltd., who decided some months ago to carry out a £11m. dock development scheme have decided to modify the scheme. The consulting engineers are T. F. Burns and Partners, Ellison Place, Newcastle upon Tyne.

St. Andrews, Fifes.—B.C. propose protection works to the cliffs at Danes Wark near Kirk Hill and are seeking a Government grant towards the estimated cost of £9,000.

HEATING AND VENTILATING

Ecclesfield, Yorks.—Parish Council to proceed with plans to install electrical water-heating equipment in swimming baths at Chapeltown.

Portsmouth.—E.C. have approved scheme for provision of central heating at Reginald Road Primary School and Eastney Modern School for Boys. Estimated cost £12,000.

Stockton-on-Tees, Dur.—Newcastle Regional Hospital Board recommended to erect new boilerhouse with boiler plant at Stockton Children's Hospital at a cost of £12,000.

HOUSING SCHEMES

Andover, Hants.—B.C. recommended to approve the erection of 12 aged persons' bungalows at The Drove, estimated cost £15,000; obtain tenders shortly for the construction of 120 houses at London Road site adjacent to Sheep Farm estate.

Aylesbury, Bucks.—B.C. have submitted for planning permission plans for 17 council houses at the junction of Chaloner Road and Hampden Gardens, Southcourt estate.

Barrow-in-Furness, Lancs.—B.C. recommended to approve amended layout for 58 semi-detached houses on land off Dane Avenue for A. Whitehead, 1 Whin Drive, Bolton-le-Sands.

Basingstoke, Hants.—Area Planning Committee have approved plan for 12 houses at Belle Vue Road, Basing, for R.D.C.

Beddington and Wallington, Surrey

—B.C. recommended, subject to planning approval, to instruct R. Atkinson and Partners, architects, 13 Manchester Square, London, W.I. to prepare detailed plans for the development of the Wright's Row site (Lorraine House scheme) incorporating a 10-storey tower block of 40 flats and 14 one-bedroom bungalows and garages.

Bingley, Yorks.—U.D.C. have approved the erection of old people's flats on the Ashfield estate.

Bishop Auckland, Dur.—U.D.C. planning approval granted for the erection of 28 aged persons' bungalows on land at Darlington Road, West Auckland.

Blaydon, Dur.—Plans are being considered for the erection of houses and shops at Rowlands Gill for J. W. Vickers, 4 Plummer Street, Newcastle upon Tyne. C. Solomon, architect, 30 St. Mary's Place, Newcastle upon Tyne.

Brentford and Chiswick, Middx.—B.C. recommended to approve schemes for a four-storey block of 14 dwellings and 11 garages at Devonshire Road, three-storey block of six flats, four old people's bungalows and 12 garages at Mills Road, four-storey block of 16 dwellings and 12 garages at Spencer Road, Chiswick, and 103 dwellings and 97 garages at Syon Park; approve the appointment of J. R. Harris, 38 Queen Anne Street, London, W.I. and P. R. Gibbs, 66 Victoria Street, London, S.W.1, respectively, as architects, to prepare schemes for the development of the site of 7/21 (odd) Oxford Road North, and 35 Wellesley Road and site of 107 Barrogate Road.

Bristol.—Housing Committee have approved schemes for 15 maisonettes and flats at junction of Kingsdown Parade and Freemantle Road, and eight flats and maisonettes at Bell Hill Road, St. George. Estimated cost £36,000 and £15,754, respectively.

Bromley, Kent.—B.C. recommended to approve amended plans for the erection of 104 flats and 52 garages at Turpington Lane development (second stage).

Charlton King's, Glos.—I. Williams, Claremont House, 67 Montpelier Terrace, Cheltenham, is the architect for the development of the Home Farm site for housing purposes for Morlands Development Co.

Chatham, Kent.—B.C. recommended to approve the redevelopment of site of 90 American type bungalows at Churchill Avenue, to make way for 84 houses and 118 garages.

Chislehurst and Sidcup, Kent.—U.D.C. to prepare scheme for the erection of houses (for sale) North Cray Place estate.

Cleckheaton, Yorks.—West Riding Town and Country Planning Committee, in conjunction with the Spennborough Corporation, have approved the erection of a three-storey block of six flats and six maisonettes at Providence Street, Northgate.

Corby, Northants.—U.D.C. propose the erection of 24 old people's flats and a warden's flat off Gainsborough Road. Estimated cost £36,000.

Croydon, Surrey.—B.C. recommended to approve plans for 10 houses, 48 flats or maisonettes, and garages (stage 3) at Holmesdale Road/Wisbeach Road and 43 houses, 42 flats and 42 garages at Monks Hill (stage 1).

B.C. recommended to approve plans for 34 flats and 29 garages at Mowbray Road, for Tamworth Park Construction Co., Ltd., 2 Thrale Road, Streatham, S.W.16; 30 flats, eight shops and 21 garages on site of former Archbishop Tennison's School at Selsdon Road, for A. J. Wait and Co., Ltd., Wellington Crescent, New Malden.

Dalton, Lancs.—U.D.C. have approved the erection of eight houses for key workers at the Blain corset factory.

Darlington, Dur.—L. Abdale, Weir Street, planning the erection of houses on a five-acre site at Sadberge.

Dartford, Kent.—B.C. recommended to invite tenders for erection of 186 houses at Temple Hill and Downs estate.

Denholme, Yorks.—U.D.C. to ask Homerville Construction Co., Ltd., to prepare layout plan for the construction of flats and garages, if possible, on land adjoining Fairfield estate.

Dudley, Worcs.—J. Hickman and Son (Brierley Hill), Ltd., Brockmoor, Brierley Hill, to apply for planning permission to erect about 100 semi-detached houses and bungalows off St. Peter's Road, Darby End.

Ennerdale, Cumb.—R.D.C. Works Committee have approved plans for layouts for 12 bungalows at Grove End, Egremont, and 113 houses to be built at Whitecroft, Gosforth, by J. Laing and Son.

Eritrea, Kent.—Ministry have approved the erection of 116 dwellings at Appian Way, Belvedere, and 37 housing units in three blocks to complete the Picardy Street development scheme for B.C.

Felling, Dur.—U.D.C. Surveyor preparing sketch plans for housing developments at Redemarsh and near the Ouston and Pelaw Waggonway.

Gillingham, Kent.—B.C. to apply to Ministry for a further allocation of about 50 small accommodation units.

Hailsham, Sussex.—R.D.C. recommended to approve plans for old people's flats at Park Croft, Polegate.

Heckmondwike, Yorks.—U.D.C. have approved plan to clear and redevelop the Tower Square area of the town where it is proposed to build about 32 house units and four shops in a three-storey construction. The site is off High Street, a short distance from the town centre, and is bordered by Church Lane and St. James's Church Vicarage.

Horncastle, Lincs.—R.D.C. have approved plans for the erection of 19 warrant officers' and 76 airmen's quarters at Coningsby for Air Ministry.

Lancaster.—City Council have approved the erection of 100 one-bedroom dwellings on the Ridge and Hareruns estates.

Leeds.—Town Planning Committee have approved plans for erection of 64 private luxury flats and 64 garages on land at Weetwood, for Sir Lindsay Parkinson and Co., Ltd., London, Gillinson and Barnett, 8 Queen Square, are the architects.

Leigh, Lancs.—B.C. seeking sanction to borrow £56,124 for erection of 39 two-bedroom houses on the Higher Fold estate.

Lichfield, Staffs.—City Surveyor to prepare detailed plans and bills of quantities and invite tenders for all dwellings at Trent Vale site and Wheel Lane estate except the eight-storey blocks of flats; obtain tenders from selected contractors for the erection of the eight-storey blocks of flats.

Loughborough, Leics.—B.C. recommended to prepare scheme for the erection of two blocks, each of 12 flats, and a block of four flats and one house at Rectory site.

Maidenhead, Berks.—Davis Estates, Ltd., 346 Kilburn High Road, London, N.W.6, have been granted outline permission, subject to conditions, for the development of 90 acres of land between Bath Road and Altwood Road.

Middlesbrough, Yorks.—Wimpey and Co., Ltd., Orchard House, Fenwick Terrace, Newcastle upon Tyne, are to carry out further developments on the Acklam Road estate, including the erection of 54 semi-detached houses, 24 semi-detached bungalows and 125 garages. Borough Engineer has prepared plans for four blocks of three-storey flats and maisonettes (36 dwellings), at St. Hilda's.

Morecambe, Lancs.—Planning Committee have approved plans for layout for 43 bungalows in Fulwood Drive, Marton Drive and Fairlea Avenue, for J. Parkinson and Sons, Ltd., Fulwood Estate, Low Lane, and for 10 pairs and three detached bungalows and 23 garages in Lonsdale Avenue and Michaelson Avenue, for A. Robinson and Sons, Ltd., West End Road.

Queensbury and Shelf, Yorks.—U.D.C. have approved the erection of 30 houses on the Hillcrest extension.

Richmond, Yorks.—R.D.C. engineer to prepare layout plan for the erection of 40 houses at Colburn.

Rotherham, Yorks.—B.C. recommended to approve, subject to certain conditions, planning permission for the building of 82 semi-detached houses and two detached houses at Hall Road, Hall Grove, Welham Drive, and Moorgate Road, for George Wimpey and Co.

Rowley Regis, Staffs.—B.C. to submit to C.C. for planning approval, layout for 24 three-storey flats and 16 garages at Shepherd's Fold site.

Salford, Lancs.—City Planning Committee have approved plans for erection of two blocks of three-storey flats in Sandy Lane for Trustees of the Booth Charities, 1 Crescent, Salford, 5.

Scarborough, Yorks.—T. L. Chapman and Son, 19 Auboro Street, are to erect a block of 12 flats at Filey Road; Baker, Clark, Scott and Partner, architects, 7 York Place.

Scunthorpe, Lincs.—B.C. recommended to approve revised layout of the Westcliff estate.

B.C. recommended to approve, subject to planning approval, plans for 21 pairs of semi-detached houses, five pairs of semi-detached bungalows, one detached bungalow and 54 garages at Flixborough housing estate for Drury Estates, Ltd., 92 London Road, Kettering.

Sheffield.—Housing Committee have approved layout by City Architect for second phase of the Woodside redevelopment scheme, consisting of 10 blocks of maisonettes and some two-storey houses—at total of 178 dwellings—together with 56 garages.

Slough, Bucks.—B.C. have approved plans for the erection of 86 houses and garages off Meadow Road, Langley, for G. Wimpey and

Co., Ltd., 26 Hammersmith Grove, London, W.6.

Sodbury, Glos.—R.D.C. have approved plans and layout for 32 maisonettes, 12 flats, 18 old people's bungalows and a warden's house and eight shops with flats at church site. Tenders to be invited from six firms for the development.

South Kesteven, Lincs.—R.D.C. to erect six houses for teachers at the Deepings County Secondary Modern School. Estimated cost £10,159.

Spennymoor, Dur.—U.D.C. to build 16 houses at Tudhoe Moor and 24 at Byers Green. Council's architects are G. H. Gray and Partners, Camden Street, North Shields. No contracts let.

Turton, Lancs.—U.D.C. have approved layout for erection of 22 bungalows for aged persons, a warden's bungalow and communal room.

Upton-on-Severn, Worcs.—R.D.C. to submit to Ministry and C.C. for approval, scheme for the erection of 14 maisonettes on stilts to prevent flooding.

Wakefield, Yorks.—City Council have applied to the Ministry for permission to allow Fell Construction Co., Ltd., 20 Lawfield Lane, to develop part of farm land at Sandal into housing estate.

Housing and Town Planning Committee have approved layout plans for the erection of one-bedroom flats at Rufford Street, Pinfold Lane and Blakeley's Buildings for sub mission to the Ministry.

R.D.C. have approved plans for two pairs of semi-detached bungalows, one detached bungalow, one pair semi-detached houses and one detached house at Back Lane, Crigglestone, for Northwood Estate, Ltd., The Towers, Bond Street; three pairs semi-detached bungalows at Sandy Lane, Middletown, for Ellis and Longbottom, 176 Horbury Road, and three pairs semi-detached houses and layout for additional four pairs of semi-detached at Old Road, Overton, for D. H. Taylor, 59 Ramsey Road, Middlestown, Horbury.

City Council have approved the erection of six bungalows on the Ivy House estate, for disabled persons.

Wednesbury, Staffs.—B.C. recommended to approve plan for eight bungalows at the Oval site, Millfields Road and draft layout plan for bungalows, flats, garages and two lock-up shops at corner of Manor House Road and Old Park Road.

Woodbridge, Suffolk.—Co. Planning Committee have approved U.D.C.'s scheme for six blocks of three-storey flats comprising 48 units, and one block of garages at Castle Street-Mill Lane site.

Worthing, Sussex.—B.C. recommended to approve, subject to conditions, plans for the erection of a 10-storey block of 30 flats, five-storey block of 15 flats and a three-storey block of four flats with garaging under and parking facilities for 39 vehicles at south side of Ardshead Road, Broadwater, for J. W. Stratton, Ltd., 1 Mill Lane, Shoreham-by-Sea.

PLAYING FIELDS, PARKS, ETC.

Aughton, Lancs.—Parish Council to purchase a 16-acre site at corner of Bold Lane and Winifred Lane, for playing field.

Batley, Yorks.—B.C. to spend £6,220 on provision of bowling greens and tennis courts at Hystrlands recreation ground.

Bradford-on-Avon, Wilts.—U.D.C. recommended to approve plan for the development of Culver Close as a recreation ground. Estimated cost £8,076.

Brownhills, Staffs.—C.C. recommended to purchase land near Mill Lane, Shelfield, to provide playing fields for Brownhills (Shelfield) R.C. Primary School.

Durham.—C.C. have approved plans for using land at Kepier farm as playing fields for girls' grammar school.

Wantage, Berks.—U.D.C. to prepare scheme for providing a bowling green, two hard tennis courts and a putting green at the recreation ground, Newbury Street.

RIVER AND FLOOD PREVENTION WORKS

Blaby, Leics.—Co. Highway Authority have submitted to the Trent River Board an alternative scheme providing for a series of tubes to form an Irish bridge over the site of the existing road to prevent the River Soar flooding Enderby Road, Whetstone. Estimated cost £35,000.

Droitwich, Worcs.—Severn River Board have approved, subject to Ministry approval, a flood relief scheme for Droitwich. Estimated cost £2,300.

ROADS, BRIDGES AND SITE WORKS

Belfast.—Improvement Committee have recommended the appointment of R. Travers Morgan and Partners, consulting engineers, 60 Aldermanbury, London, E.C.2, to prepare

plans for the new bridge over the Lagan. Estimated cost £1m.

Birmingham.—Ministry have approved scheme for the making-up of King's Road, Kingstanding, for City Council. Estimated cost £50,000.

Bradford-on-Avon, Wilts.—U.D.C. to submit to Co. Planning Committee design of a footbridge to span the River Avon from near St. Margaret's Hall to Church Street. Estimated cost £1,800 to £1,900.

Bridlington, Yorks.—B.C. to prepare scheme for footbridge over the railway, to give access from West Hill estate to Hilderthorpe schools. Estimated cost £8,500.

Bristol.—Planning and Public Works Committee have approved the Cumberland Basin Bridge scheme including the substitution of a swingbridge for the original bascule bridge. Estimated cost £2.3m.

Buckinghamshire.—Highways, Bridges and Boundaries Committee have submitted to M.T. for preliminary consideration scheme for the improvement of route between Bletchley and the London-Birmingham Motorway. Estimated cost £280,000.

Croydon, Surrey.—B.C. recommended to approve plans for the construction of a car park at rear of police station and shops in London Road. Estimated cost £2,600.

Darlington, Dur.—B.C. have approved creating part of the cattle mart. Estimated cost £1,790.

Gateshead, Dur.—Borough Surveyor has prepared street work schemes in Rectory Road, Bensham Avenue, and Oswald Terrace. Estimated cost £11,000.

Heckmondwike, Yorks.—U.D.C. to apply for sanction to borrow £2,964 for improvement of Hollingbank Lane.

Huntingdonshire.—C.C. have approved the provision of two footpaths on route B.1040 at Hilton, Huntingdon. Estimated cost £2,000.

Kettering, Northants.—B.C. to submit to M.T. for approval scheme for the construction of a road linking Weekly Glebe Road and Stamford Road.

Leek, Staffs.—U.D.C. to apply for sanction to borrow £4,935 for the construction of roads at Pickmore Avenue and Prospect Road.

Leigh, Lancs.—B.C. seeking sanction to borrow £30,152 for roads and sewers of stage 4C on the Higher Fold estate.

Morecambe, Lancs.—B.C. to spend £50,929 on repairing footpaths and roads in the town.

Norfolk.—E.C. have approved scheme for re-topping of playground at Swaffham School. Estimated cost £1,043.

Rochdale, Lancs.—Borough Surveyor recommended to prepare detailed plans for the making-up of that part of Bentley Street which would connect Whitworth Road with the Shawgaze estate.

Rugeley, Staffs.—C.C. propose the construction of new footpaths and resurfacing a length of Hagley Road and Sheep Fair. Estimated cost £3,450 and £2,150, respectively.

St. Ives, Hunts.—C.C. have approved scheme for the provision of footpaths along both sides of the Old Ramsey Road. Estimated cost £1,000.

Scarborough, Yorks.—B.C. to apply for sanction to borrow £23,700 for construction of roads, sewers, and essential services for the development of the proposed industrial site at Eastfield.

B.C. recommended to approve revised estimate of £61,255 for diversion of Scalby Road, A.171, between its junction with Woodlands Ravine and its junction with Lady Edith's Drive.

Shrewsbury, Salop.—B.C. recommended to approve scheme for the provision of a bus bay at the technical college in London Road. Estimated cost £1,500.

Stockton-on-Tees, Dur.—B.C. have submitted to the M.T. scheme for two further stages of the Ring Road. Estimated cost £163,700.

Sunderland, Dur.—B.C. recommended to apply for sanction to borrow £40,000 for provision of access roads and ancillary works for 19 sites on which garages will be erected.

West Sussex.—C.C. to submit to M.T. for approval, scheme for a new bridge over the River Adur at Shoreham. Estimated cost £673,000.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Cirencester, Glos.—U.D.C. to make a comprehensive survey of the town's sewerage system.

Dartford, Kent.—R.D.C. recommended to approve outline sketch plan for the construction of a sewer at West Kingsdown. Estimated cost £170,000.

Durham.—Ministry have approved in principle City Council's proposal to construct the Newton Hall outfall sewer. Estimated cost £18,900.

Forehoe and Henstead, Norfolk.—R.D.C. have approved sewerage scheme for Cringleford and Hethersett.

Ludlow, Salop.—C.C. have approved in principle Spring Farm extension to Clee Hill sewerage scheme for R.D.C. Estimated cost £1,810.

Pershore, Worcs.—R.D.C. to apply for sanction to borrow £348,450 and permission to invite tenders for the construction of sewage disposal works.

Seaham, Dur.—Newcastle upon Tyne Regional Hospital Board are seeking permission from the planning authorities to construct new sewage disposal works at Seaham Hall Hospital. Roger Thornton, consulting engineer, Lloyds Bank Chambers, Newgate Street, Morpeth.

Spilsby, Lincs.—Ministry have approved the second stage of the Chapel St. Leonards sewerage scheme and the Anderby Creek scheme for R.D.C. Estimated cost £47,000 and £38,000, respectively.

Tetbury, Glos.—R.D.C. to apply for sanction to borrow £1,360 for extension of the sewer to serve Woodstock.

Wellington, Salop.—C.C. have approved in principle, R.D.C.'s revised sewerage scheme for Lilleshall. Estimated cost £62,500.

Wem, Salop.—C.C. have approved in principle, R.D.C.'s revised sewerage scheme for Prees. Estimated cost £45,000.

Wenlock, Salop.—C.C. have approved in principle, R.D.C.'s revised Madeley aqueduct sewerage scheme. Estimated cost £66,327.

STREET LIGHTING

Dover, Kent.—B.C. to apply for sanction to borrow £1,220 for the installation of new mercury vapour lighting through Archcliffe Road and Limekiln Street.

Gateshead, Dur.—Borough Surveyor to be authorised to carry out schemes for street lighting conversion. Estimated cost £9,000.

Radcliffe, Lancs.—Borough Surveyor to prepare schemes for modernising the lighting in Bury and Bolton Roads, Ringley Road and Radcliffe Moor Road.

Solihull, War.—B.C. recommended to approve scheme for improved lighting in Lyndon Road and part of Richmond Road, Olton. Estimated cost £4,166.

Standish with Langtree, Lancs.—U.D.C. have approved scheme for improved street lighting in Grove Lane and in Wigan Lower Road from Holland's Houses to the Western boundary. Estimated cost £1,145.

Tonbridge, Kent.—R.D.C. to apply for sanction to borrow £3,450 for the installation of street lighting in Tonbridge Road, Hildenborough.

CONTRACTS

Full details of the Contracts marked * will be found in our Advertisement Columns.

BUILDING AND DECORATING

(See also Housing Schemes)

West Riding.—External painting at the County Welfare Establishment, Stanley View, Wakefield, for C.C. Applications to the Divisional Architect, Bishopsgarth, Westfield Road, Wakefield, by Sept. 2. Tenders by Sept. 19.

DEMOLITION

East Sussex.—Demolition of all buildings on the site of Old Cinque Ports Hotel, Cinque Ports Street, Rye, for C.C. Submit names to the County Architect, County Hall, Lewes, by Aug. 31.

FENCING

Bedworth, War.—Post and rail fencing at New Road, Exhall, for U.D.C. Tenders by Sept. 3.

GAS AND WATER SUPPLY

***Brighton, Sussex.**—Sterilisation plant, contract 4, for B.C. Deposit £2 2s. Tenders by Sept. 30.

***Brighton, Sussex.**—Construction of Bevenden reservoir, for B.C. Deposit £5 5s. Tenders by Sept. 30.

***Brighton, Sussex.**—Remote automatic control equipment for B.C. Deposit £2 2s. Tenders by Sept. 30.

HOUSING SCHEMES

Market Rasen, Lincs.—Two houses and a block of four garages (in separate contracts) at Market Rasen, for U.D.C. Submit names to Wm. Saunders and Partners, architects, 24 Castlegate, Newark-on-Trent, Notts., or 57 Upgate, Louth. Deposit £2 2s. Tenders by Sept. 2.

MATERIALS AND SUPPLIES

Dundee, Angus.—Supply at Dundee Harbour of motor spirit, gas oil and 200 secs. medium fuel oil, and at Craig Pier, Tay

Ferries, of marine diesel fuel (distillate) all by road tank, for the Harbour Trust. Documents from Alexander Smith, general manager and engineer, Dundee Harbour Trust, Harbour Chambers, Dock Street, Dundee. Tenders by Sept. 5.

ROADS, BRIDGES AND SITE WORKS

***Ashton-in-Makerfield, Lancs.**—Construction of roads and sewers at Low Bank housing estate, for U.D.C. Tenders by Sept. 24.

***Cambridgeshire.**—Reconstruction of Cambridge-Potton Road, contract 6016, for C.C. Tenders by Sept. 14.

***Cambridgeshire.**—Construction of a roundabout on the A11, for C.C. Tenders by Sept. 27.

***Chesterfield, Derbys.**—Road works at Eckington, for R.D.C. Deposit £2 2s. Tenders by Sept. 1.

***Colchester, Essex.**—Preparatory works in connection with the Shrub End refuse tip, for B.C. Deposit £2 2s. Tenders by Sept. 19.

***Litchfield, Staffs.**—Construction of traffic island for City Council. Deposit £2 2s. Tenders by Sept. 9.

Swanage, Dorset.—Making-up of Redcliff Road (parts I and II) and street leading to Ballard estate, for U.D.C., comprising approx. 5,000 sq. yd. of tarmacadam and carpet coat work, 1,700 sq. yd. of stone foundation and 600 lin. yd. of kerbing. Documents from P. S. Browne, engineer and surveyor, Town Hall, Swanage. Tenders by Sept. 3.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Newcastle-under-Lyme, Staffs.—Laying of approx. 430yd. of 9in. pipe, together with precast concrete manholes and other incidental works at Audley Street, Silverdale Street, and Acacia Avenue, Knutton, for B.C. Documents from the Borough Engineer and Surveyor, Lancaster Buildings, High Street, Newcastle, Staffs. Tenders by Sept. 5.

BUILDING AND DECORATING

(See also Housing Schemes)

Aberdeen.—Several works involved in the construction of lock-up garages at the following sites for City Council: (a) Deveron Road, Mastrick—two blocks comprising 13 garages; (b) Harthill Place, Mastrick—four blocks comprising 22 garages; (c) Cairnwell Place, Mastrick—four blocks comprising 43 garages; (d) Tullos Lane, Torry—one block comprising 13 garages. Applications, in writing, to the City Architect, 11 Broad Street, Aberdeen. Tenders by Sept. 9.

Bala, Merioneths.—Office and stores at Bala for Dee and Llyw River Board. Construction of a single storey building approximately 50ft. long by 23ft. wide founded on a concrete raft, walls faced with stone-faced precast concrete blocks and roof covered with native slates together with the laying of 270 lin. yd. of 6in. diameter sewer and 170 lin. yd. of 1in. diameter polythene water main. Documents from G. A. Wright, executive officer and clerk, 2 Vickar's Lane, Chester. Deposit £2 2s. Tenders by Sept. 9.

Banffshire.—Additions to Tomintoul J.S. School in the following trades for C.C.: Builder, carpenter, joiner and glazier; plumber; slater and roughcast; plasterer; painter. Documents from A. M. Wilson, county architect, 13 Cluny Square, Buckie. Tenders by Sept. 9.

***Basingstoke, Hants.**—Precast concrete-framed buildings at Corporation depot for B.C. Deposit £2 2s. Tenders by Sept. 2.

***Basingstoke, Hants.**—Alterations and additions to Corporation depot for B.C. Deposit £2 2s. Tenders by Sept. 5.

Bedfordshire.—Erection of a single-storey extension, in traditional construction, to the kitchen and dining accommodation, together with alterations to existing premises at the Bedford College of Physical Education, Lansdowne Road, for Co. E.C. Applications to the County Architect, Shire Hall, Bedford, by Aug. 29. Heating Engineer and electrical contractors are also invited to submit their names by the above date for consideration to tender for the undermentioned sub-contracts in connection with the above: (a) Engineering services; (b) electrical installation.

Birkenhead, Cheshire.—Erection of phase II Overchurch County Primary Junior School, Moreton Road, Upton, for B.C. Documents from Borough Architect, 3 Conway Street, Birkenhead. Deposit £2 2s. Tenders by Sept. 9.

Blackburn, Lancs.—Proposed extensions to Blackmoor Open-air School, for B.C. Applications to the Borough Engineer, Town Hall, Blackburn, by Aug. 31. Deposit £2 2s.

Cambridgeshire.—Erection of a village college and six staff houses at Cottenham, for C.C. Applications to the County Architect,

Shire Hall, Cambridge, by Aug. 29. Deposit £2 2s.

Cornwall.—Sub-contracts for C.C.: (a) Structural steelwork, and (b) metal windows, in connection with the erection of a catering and women's block at the Cornwall Technical College, Trevenson, Pool, Redruth. Applications to the County Architect, County Hall, Truro, by Sept. 1.

Daventry, Northants.—Following works for R.D.C.: (a) Formation and laying of a tarmacadam footpath of approximately 400 sq. yd. at Lovett Road, Byfield; (b) installation of hot water supply systems and incidental works to 10 houses at Woodford Road/Fessey Road, Byfield. Documents from H. Bonson, surveyor, Council Offices, Church Walk, Daventry. Tenders by Sept. 5.

Dewsbury, Yorks.—Construction of a mass concrete retaining wall at Carlton Road Infants' School, length 88ft., average height 9ft., and average thickness 1ft. 9in., for B.C. Documents from the office of the Borough Engineer and Surveyor, Municipal Buildings, Halifax Road, Dewsbury. Deposit £2 2s. Tenders by Sept. 5.

Doncaster, Yorks.—Erection of public conveniences at the junction of Broomhouse Lane and Edlington Lane, Edlington, contract 352, for R.D.C. Documents from J. A. Williams, surveyor, Nether Hall, Doncaster. Tenders by Sept. 16.

Dundee.—Brickwork of garages and stores to be constructed at Foldend, Lintrathen, for Water Department. Documents from the Engineer and Manager, 1 Shore Terrace, Dundee. Tenders by Aug. 31.

Dundee.—Excavator, brick, concrete and joiner work at toilets, approximately 21ft. by 14ft., to be constructed at Main Lodge, Lintrathen reservoir, for Corporation Water Department. Documents from the Engineer and Manager, 1 Shore Terrace, Dundee. Tenders by Aug. 31.

Durham.—Following for C.C.: Cambridge House, Hostel, Barnard Castle, alterations; Greenfield estate, Swalwell, erection of standard police houses, garages and stores. Applications to County Architect, South Street, Durham, by Aug. 31.

East Retford, Notts.—Improvement of dressing accommodation at the public baths for B.C., comprising the construction of 24 terrazzo dressing cubicles, together with the laying of approximately 86 sq. yd. of floor tiling. Documents from Borough Surveyor, Municipal Offices, Retford. Tenders by Sept. 12.

East Suffolk.—Alterations to the existing building and the erection of extensions of some 3,000 sq. ft. floor area, at Cookley and Walpole V.C.P. School, for C.C. Applications to the County Architect, County Hall, Ipswich, before Sept. 2. Tenders by Oct. 7.

Essex.—Following at Orsett C. of E. (aided) Primary School, for C.C.: Adaptations to provide a new kitchen and staff room and an access road, estimated cost £2,800. Applications to H. Connolly, county architect, County Hall, Chelmsford, by Aug. 27.

Eton, Bucks.—Erection of the following for R.D.C.: (a) Nine garages and construction of parking space at the rear of the Council Offices, Windsor Road, Slough; and (b) 35 garages at Denham Green estate, Denham. Documents for these schemes will be issued in mid-October. Applications to G. L. Bridger, clerk to the Council, Council Offices, Windsor Road, Slough, before Aug. 31, giving the names and addresses of two referees.

***Gloucestershire.**—Shire Hall redevelopment, phase 1, for C.C. Apply by Sept. 10.

Halifax, Yorks.—Supply and fixing of standard type dry partitioning required in connection with internal alterations at Percival Whitley College of Further Education, for B.C. Documents from the Borough Engineer, Crossley Street, Halifax. Tenders by Sept. 5.

Haltemprice, Yorks.—Erection and completion of 12 lock-up garages on the Station Road estate, Hessle, for U.D.C. Documents from the Engineer and Surveyor, Anlaby House, Anlaby. Deposit £1 payable to the Treasurer. Tenders by Sept. 12.

Haltemprice, Yorks.—Erection of a sports pavilion either (a) traditional type of erection, or (b) prefabricated, at King George V Playing Field, Hessle, for U.D.C. Documents from the Engineer and Surveyor, Anlaby House, Anlaby. Deposit £1 payable to the Treasurer. Tenders by Aug. 31.

Hampshire.—Erection of two-storey practical blocks and extensions to the kitchens (total floor area approx. 9,500 sq. ft.) at each of the following schools, for C.C.: Petersfield County Secondary School; Bordon Mill Chase County Secondary School; Farnborough Fernhill County Secondary School. Applications to Jackson and Greenen, architects, Hinton Buildings, Hinton Road, Bournemouth, by Sept. 9. Deposit £2 2s., cheques payable to County Treasurer.

Hampshire.—Following at Eastleigh, North End County Secondary School, for C.C.: Ex-

tension and alterations including new two-storey practical block, assembly hall, kitchen, two-storey classroom wing, the area of the new building being approx. 20,500 sq. ft. with, in addition, alterations forming science laboratory, gymnasium changing rooms, boiler house extension and three teaching spaces. Applications to Jackson and Greenen, architect, Hinton Buildings, Hinton Road, Bournemouth, by Sept. 9. Deposit £2 2s., cheques payable to County Treasurer.

Hampshire.—Erection of a new office for the Divisional Surveyor at the County Road Depot, Paper Mill Lane, Alton, for C.C. Applications to the County Architect, The Castle, Winchester, by Sept. 1. Deposit £1 1s., cheque payable to the County Treasurer.

Harrow, Middx.—Taking down and rebuilding the corridor and porch (north side) of county grammar school, Brookhill, Harrow Weald, for B.C. Documents from Borough Engineer and Surveyor, Council Offices, Cottesmore, 48 Uxbridge Road, Stanmore. Deposit £2 2s., cheques payable to Corporation. Tenders by Sept. 20.

***Heywood, Lancs.**—Erection of precast concrete garages for B.C. Deposit £1 1s. Tenders by Sept. 12.

Honiton, Devon.—Alterations and extensions to offices, including alterations to the heating installation and the provision of a new lavatory for East Devon Water Board. Documents from Antony Lamb, 2, Prospect Place, Ottery St. Mary. Deposit £3 3s. payable to the Board. Tenders by Aug. 31.

***Lancashire.**—Approved list of contractors for C.C. Apply by Sept. 12.

Larne, Antrim.—Erection and completion of a sports pavilion at Sandy Bay sports ground for B.C. Documents from the office of T. J. M. Davison, 47 Station Road, Larne, or from Ogilby and McCutcheon, quantity surveyors, 9 Upper Crescent, Belfast. Deposit £5 5s. Tenders by Sept. 16.

Liverpool.—Construction of aged persons' hostel, Leyfield Road, for City Council. Documents from the City Architect and Director of Housing, Blackburn Chambers, Dale Street, Kingsway, Liverpool, 2. Deposit £2 2s., payable to City Treasurer. Tenders by Sept. 9.

Liverpool.—Strengthening floors, Breckfield (Granton Road) C.P. School, for City Council. Documents from City Engineer and Surveyor, Municipal Buildings, Liverpool, 2. Tenders by Sept. 8.

Liverpool.—Construction of the following for City Council: (a) Extensions first floor Childwall Valley High School; (b) kitchen, Dovedale Road Boys School; (c) women's centre, 83 Newsham Drive; (d) changing rooms, New Heys Grammar School; (e) changing rooms, Grove Mount playing fields; (f) Woolton County Primary School (phase II); (g) Quarry Bank High School gymnasium store; (h) alterations, Chatham Place Nursery School. Documents from City Architect and Director of Housing, Blackburn Chambers, Dale Street, Kingsway, Liverpool, 2. Deposit £2 2s. each, payable to City Treasurer. Tenders by Sept. 9.

Maltby, Yorks.—Improvement and repair of 16 houses in Fisher Road and Bedford Street for U.D.C. Documents from G. H. Davis, architect, Council Offices, Rotherham Road, Maltby. Tenders by Sept. 10.

***Manchester.**—Alterations to form police driving school, for City Council. Tenders by Sept. 9.

Manchester.—Erection of sports changing rooms at Hewlett Park Playing Fields, Clayton, for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by Sept. 6.

Newcastle upon Tyne.—New casualty department at Newcastle General Hospital for Regional Hospital Board. The building will consist of a two-storey block containing an approximate floor area of 19,000 sq. ft. constructed with cavity brick walls and precast concrete floors units and connected to an existing single-storey building in which minor alterations will be required. Documents will be ready for issue to contractors during September, 1960, and it is expected that it will be possible for the building operations to commence in January, 1961. Applications to the Secretary of the Board, Benfield Road, Newcastle upon Tyne, 6, by Sept. 1.

Northamptonshire.—Following at Wellington new fire station, ambulance depot and civil defence training centre, for C.C.: (a) Erection in partly two-storey steel frame and load-bearing brickwork construction, or (b) electrical installation. Applications to County Architect, County Hall, Northampton, by Aug. 30.

North Riding.—Erection of second installation of county primary school at Huntingdon, near York, for Co. E.C. Documents from E. Barracough, County Hall, Northallerton, or W. W. Atkinson and Partners, architects, 4 Raymond Buildings, Gray's Inn, London, W.C.1. Plans also seen at the County Hall. Tenders by Sept. 16.

Ogmore and Garw, Glam.—Repair and improvement of 7 Thornton Crescent, Pantyrogog, Pontcymmer, for U.D.C. The work includes the installation of a bathroom and larder and general repairs to the premises. Documents from the Engineer and Surveyor, Council Offices, Brynmewyn, Glam. Deposit £2 2s. Tenders by Sept. 19.

Penzance, Corn.—Carrying out alterations at the former Cross Street sorting office, Penzance, to convert it into offices and workshop for the West Cornwall Water Board. Applications to the Engineer and Manager, 70 Market Jew Street, Penzance, by Aug. 27.

Peterborough.—Erection and completion of a new cell block adjoining the Sessions House, Thorpe Road, Peterborough, for C.C. Documents from the County Surveyor, County Offices, Bridge Street, Peterborough. Deposit £2 2s. Tenders by Sept. 21.

Peterborough.—Changing rooms, Chestnut Avenue, for City Council, in brick construction with timber and felted roof. Applications to City Engineer, Town Hall, Peterborough. Deposit £2 2s, payable to Corporation. Tenders by Sept. 12.

Rawtenstall, Lancs.—Erection of new mortuary, Burnley Road, for B.C. Deposit £2 2s. Tenders by Sept. 19.

Reading, Berks.—Conversion of 46 South Street, into separate units of accommodation, for B.C. Documents from the Borough Architect, Town Hall, Reading. Tenders by Sept. 9.

Ripon and Pateley Bridge, Yorks.—Following for R.D.C.: (1) Alterations to the surveyors department and other offices; (2) decorating following the alterations. Documents from the Architect, Council Offices, Pateley Bridge. Tenders by Aug. 30.

Shipston-on-Stour, War.—Erection of six prefabricated garages at Middleton Close, Tysoe, for R.D.C. Applications to Earn, Badger and Harrison, architects, Guild Chambers, Scholars Lane, Stratford-on-Avon. Deposit £2 2s. Tenders by Sept. 12.

Southampton.—Shops and dwellings for B.C. Apply by Sept. 9.

Southend-on-Sea, Essex.—Extension to dining room, Southend High School for Girls, Thorpe Bay, for B.C., comprising the erection of a single-storey extension to the existing dining hall, about 44ft. by 34ft. by 10ft. high overall, consisting of concrete foundations and floors, brick walls, steel columns and flat roof, including decorations and ancillary works. Applications to the Borough Architect, 30 Alexandra Street, Southend-on-Sea, by Sept. 6, accompanied by details of similar works previously undertaken and names of Architects from whom references may be obtained.

West Riding.—Structural alterations and improvements to the house block at the County Welfare Establishment, Thornton View, Clayton, for C.C. Applications to the Divisional Architect, Flint Street, Huddersfield, by Aug. 29. Tenders by Sept. 12.

West Riding.—The following works for C.C.: (1) Improvements to washing up facilities at Luddenden C.E. School; (2) reorganisation of the scullery at Brighouse Carr Green J.M. and I School; (3) transfer of a single West Riding classroom unit from Horsforth Featherbank Junior School to Benton Park Secondary School including all work in foundations, etc. Applications for 1 and 2 to the Divisional Architect, Flint Street, Huddersfield, and for 3 to the Divisional Architect, Salisbury Buildings, Albert Street, Harrogate, by Sept. 5. Tenders by Sept. 19.

West Riding.—Internal painting at the Highways and Bridges Laboratory, Sowood Ossett, for C.C. Applications to the Divisional Architect, Bishopsgarth, Westfield Road, Wakefield, by Sept. 2. Tenders by Sept. 19.

Worsley, Lancs.—Extensions to Town's Yard, Chestnut Avenue, Walkden, for U.D.C., including the erection of the following buildings: (a) Two-storey garage block and store 111ft. long by 31ft. wide by 25ft. high; (b) single-storey repair shop 44ft. long by 36ft. wide by 25ft. high; (c) storage buildings 77ft. long by 27ft. wide by 17ft. high; (d) alterations to existing buildings. Documents from T. T. Broome, engineer and surveyor, Town Hall, Walkden, Manchester. Deposit £2 2s. Tenders by Sept. 2.

CLOTHING AND TEXTILES

Derbyshire.—Supply of the following fire service uniform, for C.C.: 100 tunics; 200 trousers (T.9B.); 75 overalls, dungarees; 50 overcoats; 250 serge trousers; 200 firemen's caps; 250 pairs shoes; 50 pairs fireboots (leather); 50 pairs fireboots (rubber with leather soles). Documents from the Chief Fire Officer, P.O. Box 29, North Lees, Duffield Road, Derby. Tenders by Sept. 1.

Monmouthshire.—Supply of uniform clothing for ambulance drivers, for C.C. Uniform will be required for approx. 90/100 drivers. Documents from Vernon Lawrence, clerk of the Council, County Hall, Newport, Mon. Tenders by Sept. 17.

DEMOLITION

Grantham, Lincs.—Demolition of 16, 17, 18 and 19 Manners Street, and 1, 2, 3 and 4 Cambridge Place, Manners Street, for B.C. Documents from the Chief Public Health Inspector, 16 St. Peter's Hill, Grantham. Tenders by Sept. 5.

Salcombe, Devon.—Demolition of two semi-detached houses and site clearance at Courtenay Street, for U.D.C. Documents from A. J. C. Nex, surveyor, Council Offices, Salcombe. Deposit £3 3s., cheque payable to U.D.C. Tenders by Sept. 14.

Spennborough, Yorks.—Demolition of seven communal air raid shelters for B.C. Documents from Borough Engineer, Spennborough Town Hall, Cleckheaton, by Sept. 3.

West Riding.—Cudworth R.C. (Aided) School, demolition of air raid shelters, for C.C. Documents from H. Cockell, assistant divisional educational officer, 2 St. John's Square, Wakefield. Tenders by Sept. 3.

ELECTRICAL

Dundee.—Electrical light and socket outlet installation at Panmure filters, approximately four miles north-west of Carnoustie, for Corporation Water Department. Documents from the Water Engineer and Manager, 1 Shore Terrace, Dundee. Tenders by Aug. 31.

Manchester.—Electrical installation to Withington library, for City Council. Documents from City Architect, P.O. Box 488 Town Hall, Manchester. Tenders by Sept. 12.

Sunderland, Dur.—Electrical installation to the extensions and alterations to cleansing depot, Railway Row, for B.C. Documents from Borough Architect, Grange House, Stockton Road, Sunderland. Tenders by Sept. 19.

FENCING

Dewsbury, Yorks.—Supply and erection of approx. 1,500 wood gates with concrete gate posts at various housing estates for B.C. Documents from the office of the Borough Architect and Buildings Surveyor, Town Hall, Dewsbury. Tenders by Sept. 5.

Hemel Hempstead, Herts.—Fencing for B.C. Tenders by Sept. 30.

Leeds.—Supply and erection of approximately 675 lin. yd. of chain link fencing at Knotstrop sewage works, Leeds, for City Council. Documents from City Engineer's Office, Room 75, Civic Hall, Leeds, 1. Tenders by Sept. 2.

Leeds.—Provision and erection of concrete post and chain link mesh fencing at King George's playing fields, Oakwood, for City Council. Documents from Director of Works, Sweet Street, Leeds. Tenders by Sept. 5.

Liverpool.—Supply and erection of concrete post and wood pale fencing, Speke S.M. School, Liverpool, 24, for City Council. Documents from City Engineer and Surveyor, Municipal Buildings, Liverpool, 2. Tenders by Sept. 8.

Southgate.—Provision and erection of approx. 270 lin. yd. of concrete panel fencing at Barrowell Green refuse disposal plant for B.C. Applications in writing to the Borough Engineer and Surveyor, Town Hall, Palmers Green, N.13. Tenders by Sept. 5.

Southport, Lancs.—Provision and erection of approx. 475yd. of reinforced concrete posts and chain link fencing, at Liverpool Road recreation ground, for B.C. Documents from Borough Engineer, Town Hall, Southport. Tenders by Sept. 13.

Surrey, Surbiton.—Erection of new chain link fencing and general fencing repairs at various recreation grounds and allotment sites for B.C. Documents from R. Thirlway, borough engineer and surveyor, Council Offices, Ewell Road, Surbiton. Tenders by Sept. 2.

Walsingham, Norfolk.—Supply and erection of approximately 290yd. of concrete post and wire fencing at Little Snoring and the provision of six concrete garage bases at Fakenham for R.D.C. Documents from the Housing Officer, Council Offices, Baron's Hall, Fakenham. Tenders by Sept. 5.

West Riding.—Cudworth County Secondary School, renewal of sports field fencing, for C.C. Documents from H. Cockell, assistant divisional education officer, 2 St. John's Square, Wakefield. Tenders by Sept. 5.

Willenhall, Staffs.—Provision and erection of 1,208 lin. yd. of 6ft. high chain link fencing on precast concrete posts, with five sets of 12ft. wide gates, for U.D.C. Documents from the office of the Engineer and Surveyor, Town Hall, Willenhall. Tenders by Sept. 10.

GAS AND WATER SUPPLY

Antrim.—Supplying and laying the following pipes, together with all necessary valves, specials and ancillary works, contract 7, for R.D.C.: $\frac{3}{4}$ miles of 9in. diameter asbestos-cement pipe; $\frac{1}{2}$ miles 8in. diameter asbestos-cement pipe. Documents from the offices of W. D. R. and R. T. Taggart, consulting engi-

neers, 13 College Gardens, Belfast. Deposit £5 5s. Tenders by Sept. 15.

Belper, Derby.—Renewal of water main for U.D.C. Tenders by Sept. 26.

Carmarthen.—Following at Llangynin, Cynwyl Elfed and Rhaydarcaeu for R.D.C.: Construction of three small pumping stations, a small concrete service reservoir of 20,000 gallons capacity, and supplying and laying about eight miles of 3in. and 4in. spun-iron pipes and about $\frac{1}{2}$ miles of 2in. asbestos-cement pipes, all with flexible joints. Documents from T. E. Williams, clerk, 3 Spilman Street, Carmarthen, on and from Aug. 29. Deposit £5, cheque payable to R.D.C. Tenders by Sept. 26.

Chipping Norton, Oxon.—Laying approx. 2,000yd. of 3in. and 4in. pressure asbestos water mains at Salford, near Chipping Norton, for R.D.C. Documents from the Surveyor, Hillside, Albion Street, Chipping Norton. Tenders by Sept. 12.

Loughborough, Leics.—Laying of surface water mains on playing fields, Derby Road, for B.C. Deposit £2 2s. Tenders by Sept. 10.

Southam, War.—Following at Southam booster station for R.D.C.: (a) The building of a flat roofed pumphouse in brickwork and precast concrete — internal dimensions 27ft. 6in. by 17ft. by 9ft. high; (b) the provision of unskilled labour to assist machinery contractors with the erection of the plant; (c) the modification of existing pipework in the vicinity of the station. Applications to W. Herbert Bateman and Partners, consulting engineers, Chesterfield House, Bathaston, Bath, accompanied by the names and addresses of three engineers under whose direction the applicant has carried out similar work. Deposit £3 3s. Plans also seen by appointment at the offices of the Council, Coventry Road, Southam, near Leamington Spa, on and from Aug. 29. Tenders by Sept. 19.

West Cornwall.—Drift water scheme, contract 9, Leha and Cryor reservoirs, for Water Board. Deposit £5. Tenders by Sept. 26.

HARBOURS, PIERS AND SEA DEFENCE WORKS

Blackpool, Lancs.—Taking of boreholes at sea and sampling and testing of the various strata for B.C. Documents from Arthur Hamilton, borough surveyor, P.O. Box 17, Municipal Offices, Blackpool. Deposit £2. Tenders by Sept. 19.

HEATING AND VENTILATING

Armagh.—Improvements scheme (including heating, electrical and plumbing installations), Collone County Primary School, for Co. E.C. Documents from G. D. Taylor, architect, 27a English Street, Armagh. Deposit £5. Tenders by Sept. 13.

Armagh.—Following works in the proposed old people's home at Gilford Road, Portadown, for County Welfare Committee: (a) Heating, ventilating and plumbing installation; (b) electrical installation; (c) electric lift. Documents from the offices of Houston and Beaumont, architects, 9 Market Street, Lurgan, or J. R. W. Murland, consulting engineer, 13 Wellington Place, Belfast, 1. Deposit £3 3s. Tenders by Sept. 15.

Down.—Following for County Welfare Committee: (1) Low pressure hot water heating installation at Croft House, Holywood. Documents from McCandless and Barton, consulting engineers, 6 Murray Street, Belfast, 1. Deposit £3 3s. (2) Building work and attendance upon the heating contractor nominated for the above installation. Applications to the County Planning Officer, English Street, Downpatrick. Tenders by Sept. 9.

Reading, Berks.—Installation of central heating in the fire brigade workshops, Northumberland Avenue, for Berkshire and Reading Fire Authority. The installation will comprise a self-contained oil-fired air heater consisting of combustion chamber, heat exchanger and air fan, with necessary chimney, pipe work, ducting, and adaptations to the existing boiler house. Applications to E. R. Davies, clerk to the Authority, Shire Hall, Reading. Tenders by Sept. 7.

Sunbury-on-Thames, Middx.—Installation of back boilers and ancillary equipment, etc., in about 32 houses at Layton Lane and Nursery Road, for U.D.C. Applications to the Engineer and Surveyor, Council Offices, Sunbury-on-Thames. Tenders by Sept. 5.

Sunderland, Dur.—Mechanical engineering services at Bede Grammar Schools, kitchen dining room, for Education Authority. Documents from S. W. Milburn and Partners, 9 The Esplanade, Sunderland. Tenders by Sept. 14.

HOUSING SCHEMES

Aberystwyth, Card.—Two blocks of four two-storey flats in traditional construction, together with drains, services, access road and footways and all other ancillary works, on a site between Fourth and Fifth Avenues,

Penparcau, for B.C. Documents from the Borough Surveyor and Water Engineer, Public Works Department, Park Avenue, Aberystwyth. Deposit £3 3s. Tenders by Sept. 19.

Barnsley, Yorks.—Erection and completion of a detached house on the Kendray recreation ground, off Farm Road, Yews Farm estate, for B.C. Documents from the Borough Engineer, Town Hall, Barnsley. Deposit £2 2s. Tenders by Sept. 29.

Birkenhead, Cheshire.—Eighteen flats and seven lock-up garages at Apple Grove, Well Lane, for B.C. Documents from Borough Architect, 3 Conway Street, Birkenhead. Deposit £2 2s. Tenders by Sept. 12.

Caterham and Warlingham, Surrey.—A block of six flats at Godstone Road, Whyteleafe, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Caterham. Tenders by Sept. 12.

Doncaster, Yorks.—Erection and completion of 35 one-bedroom bungalows on various estates, contract 698, for B.C. Documents from the Borough Architect, 1 Priory Place, Doncaster. Deposit £2 2s. Tenders by Sept. 19.

Durham.—Following for C.C.: Greenfield estate, Swalwell—erection of standard police houses, garages and stores. Applications to the County Architect, South Street, Durham by Aug. 31.

Llanidloes, Monks.—Pair of two-bedroom semi-detached bungalows on Pengeluan housing site for B.C. Documents from D. Mervyn Edwards and Moreton, chartered architects, 5 Lower Brook Street, Oswestry. Deposit £3 3s., cheque payable to B.C. Tenders by Sept. 5.

Aberystwyth, Cardiganshire.—Erection of nine pairs of semi-detached police houses and one pair of fire officers' houses including construction of estate road at Penybont near Penparcau for Carmarthenshire and Cardiganshire Joint Police and Fire Authorities. Documents from the County Architect, County Hall, Abergavenny. Deposit £3 3s. (cheques payable to Joint Authorities). Tenders by Sept. 17.

Boldon, Dur.—One hundred and two three-bedroom type houses on the Wellands Lane housing site (section Whitburn, for U.D.C. Documents from the office of J. T. Edmonson, surveyor, Council Office, East Boldon. Deposit £5. Tenders by Sept. 27.

Bradfield, Berks.—One pair of type A.45 two-bedroom houses, together with drains and site works at Roundfield, Bucklebury, for R.D.C. Documents from H. A. Chapman, clerk of the Council, Council Offices, 26 Bath Road, Reading. Deposit £2 2s. Plans also seen at the office of W. G. Stanbrook, architect, 37a Batholomew Street, Newbury. Tenders by Sept. 9.

Chatham, Kent.—Ordnance Street redevelopment area for B.C. Apply by Sept. 1. Tenders by Oct. 3.

Chislehurst and Sidcup, Kent.—Twelve flats, Windsor Road, Footscray, for U.D.C. Deposit £2 2s.

East Dereham, Norfolk.—Pair of old persons' bungalows, together with external services, and the re-laying of 318ft. of existing foul water drains and house drains at Becclesgate estate, Dereham, for U.D.C. Applications to Tuthill and Burton, architects and surveyors, 4b Market Place, Dereham. Deposit £2 2s. Tenders by Sept. 1.

Hitchin, Herts.—Erection of houses and flats, for U.D.C. Apply by Aug. 29. Deposit £3 3s. Tenders by Oct. 5.

Lancashire.—Erection of the following for C.C.: One pair of police houses at Garstang; one pair of police houses at Huyton, near Liverpool; one pair of police houses at Little Hulton, near Bolton; and supply and fixing of wooden library shelving, including finishes, at Littleborough County Library. Applications to the County Architect, P.O. Box 26, County Hall, Preston, by Aug. 29.

Leek, Staffs.—Following at Brown Edge housing site for R.D.C.: (Contract a) 18 houses and eight bungalows; (b) roads and sewers. Applications to M. Daniels, clerk to the Council, 6 Russell Street, Leek, by Sept. 2. Deposit £2 2s. each. Plans seen by appointment at the office of Gilbert H. Trafford, architect, 16 Market Place, Leek, following the receipt of the tender documents by the contractor.

Lindsey.—A pair of semi-detached houses with outbuildings at Fire Headquarters, Eastfield Road, Louth, for C.C. Documents from A. Ronald Clark, county architect, County Offices, Lincoln. Tenders by Sept. 19.

Liverpool.—Supply and fixing of fully automatic oil burners at the following for City Council: (a) Earle County Primary School, Liverpool, 7; (b) Prince Rupert (Steers Street) County Primary School, Liverpool, 6. Documents from the City Engineer and Surveyor, Municipal Buildings, Liverpool, 2. Tenders by Sept. 8.

Matlock, Derbyshire.—Five Homeville one-bedroom type 1B-2 bungalows at Goldhill, Tansley, for U.D.C. Documents from the offices of N. Chamberlain, engineer and surveyor, Town Hall, Matlock. Deposit £3 3s. Tenders by Sept. 9.

Narberth, Pembs.—Erection of two type N.2 three-bedroom houses at Templeton and four two-bedroom bungalows at Steasdale, for R.D.C. Documents from the Council Offices, Narberth. Deposit £3 3s. Tenders by Sept. 1.

Northampton.—Eight bungalows at Denton for R.D.C. Documents from R. J. Miller, architect, 1 Cheyne Walk, Northampton. Deposit £3 3s. Tenders by Aug. 31.

Northern Ireland.—Following for Housing Trust: (a) Two hundred and fifty-eight dwellings and 83 garages together with ancillary and engineering works at Andersonstown Dev. 5A; (b) 146 dwellings and 51 garages together with ancillary and engineering works at Andersonstown Dev. 5B. Documents from the offices of the Trust, 12 Hope Street, Belfast, 12. Deposit £3 each. Tenders by Sept. 6.

Penrath, Glam.—Following for U.D.C.: (1) One block of eight single bed-sitter dwellings at school house site, Plassey Street, and (2) shop and flat with lay-by at Glyndwr Road. Documents from the office of the Engineer and Surveyor, West House, Stanwell Road, Penrath. Deposit £2 2s. Tenders by Sept. 3.

Peterborough.—Ten bungalows in five pairs (group 8) on the Bluebell estate extension for City Council. Documents from the City Engineer, Town Hall, Peterborough. Deposit £2. Tenders by Sept. 5.

Shrewsbury, Salop.—Houses, flats and a shop for B.C. Deposit £2 2s. Tenders by Sept. 21.

Southampton.—Three housing contracts for B.C. Apply by Sept. 6.

Thetford, Norfolk.—Seventeen dwellings on the Magdalen Street housing estate, for B.C. Documents from C. L. Lister, architect, Garrett House, St. Andrew's Hall Plain, Norwich. Tenders by Sept. 17.

West Bromwich, Staffs.—Two hundred and thirty-nine dwellings at Charlemont Farm estate for B.C. Tenders by Sept. 26.

Weymouth and Melcombe Regis, Dorset.—Twenty-six bungalows for B.C. Apply by Sept. 6.

MATERIALS AND SUPPLIES

Blackpool, Lancs.—Supply and delivery of 1,000 ashbins, for B.C. Documents from the Medical Officer of Health, Municipal Health Centre, Whitegate Drive, Blackpool. Tenders by Sept. 16.

Manchester.—One hundred galvanised mild steel circular refuse containers, $1\frac{1}{2}$ cu. yd. capacity, for use with bulk loading vehicles, for City Council. Documents from the Director of Public Cleansing, Town Hall, Manchester, 2. Tenders by Sept. 2.

PLANT AND MECHANICAL TRANSPORT

Listsburn, Antrim.—Supply and delivery of the following for U.D.C.: (1) Hydraulic loading shovel with diesel engine of approx 50-h.p., having four-wheel drive and "full width" bucket of approx. $1\frac{1}{2}$ cu. yd. capacity; (2) hydraulic loading shovel with diesel engine having power of 35/42-h.p., having bucket of $\frac{1}{2}\frac{1}{2}$ cu. yd. capacity controlled by double-acting hydraulic bucket rams. This machine should include provision for the fitting of a trench-digging attachment, and the tender should give the extra cost of supplying such equipment; (3) street cleaning machine of the vacuum type mounted on suitable diesel-engined chassis with left-hand drive. Documents from the Town Surveyor, Town Hall, Lisburn. Tenders by Sept. 6.

Pontypridd, Glam.—Supply and delivery to Mill Field depot of the following vehicles for U.D.C.: (Contract a) Two Karrrier Gamecock general haulage vehicles and two Karrrier Bantam dual tip refuse collecting vehicles; (b) one Ford Thames 7cwt. van. Documents from W. Cecil Evans, engineer and surveyor, Municipal Buildings, Pontypridd. Tenders by Sept. 5.

PLAYING FIELDS, PARKS, ETC.

Bradford, Yorks.—Following for City Council: Construction of a bowling green, 40yd. by 40yd. with a 9in. crown and a 9ft. tarmacadam path all the way round. Bowling green to be turfed with good inland turf. Site can be inspected at Brackenhil Park. Tenders, along with specifications, to be submitted to Henry Patten, town clerk, Council Offices, Bradford, by Aug. 31.

Bradford, Yorks.—Following for City Council: Construction of a block of three hard no-maintenance tennis courts, to be completed with surrounds, tennis nets, etc., and marked out ready for play. Site can be inspected at Brackenhil Park. Tenders, along with specifications to Henry Patten, town clerk, Council Offices, Bradford, by Aug. 31.

***East Barnet, Herts.**—Clearing, grading and seeding, etc., of areas at Oak Hill Park, contract 937, for U.D.C. Deposit £2 2s. Tenders by Sept. 16.

RIVER AND FLOOD PREVENTION WORKS

Perthshire.—Flood protection works at the River Ruchill, Comrie, for C.C. The works include strengthening and raising an existing concrete and masonry flood wall, the construction of earthen flood embankments with traversing concrete culvert, and other ancillary works. Documents from Babtie, Shaw and Morton, chartered civil engineers, 17 Blythswood Square, Glasgow, C.2. Deposit £5. Tenders by Sept. 8.

ROADS, BRIDGES AND SITE WORKS

***Bedfordshire.**—Diversion at Girtford, trunk road A.1, for C.C. Deposit £10 10s. Tenders by Sept. 30.

Berkhamsted, Herts.—Construction of a car park at the rear of Boxwell House for R.D.C., including soil excavation, levelling and tarmacadam paving. Documents from C. Laidman, surveyor, Boxwell House, 275 High Street, Berkhamsted. Tenders by Sept. 19.

Bewdley, Worcs.—Site works at Springfield estate for B.C. Apply by Sept. 2. Deposit £3 3s.

Bridport, Dorset.—Construction of 1,730 sq. yd. approximately bituminous macadam carriageway; 535 lin. yd. approximately precast concrete kerb and channel, together with surface water and foul water drainage, and ancillary works, at Skilling housing site, for B.C. Applications in writing to the Borough Engineer, Municipal Offices, South Street, Bridport. Deposit £2 2s. Tenders by Sept. 24.

Cardiff.—Following private street works for City Council: (a) Tycoch Farm estate, Llanishen; (b) The Rose estate, Llanishen; (c) Lansdowne Avenue West. Documents from the City Surveyor, City Hall, Cardiff. Deposit £2 2s. Tenders by Sept. 1.

Caterham and Warlingham, Surrey.—Resurfacing of footpaths in Banstead Road, Caterham, and the construction of a new footpath in Hillbury Road, Warlingham, for U.D.C. The works include approximately 560 sq. yd. of cold asphalt surfacing; 100 lin. yd. of re-laid kerbing; 650 sq. yd. of hardcore and hoggan footpath construction, and the removal of approximately 450 cu. yd. of earth. Documents from the Engineer and Surveyor, Council Offices, Caterham. Tenders by Sept. 9.

Coventry.—Resurfacing total of 21,400 sq. yd., and incidental works, 1960/61, for City Council. Documents from City Engineer, Council House, Coventry. Deposit £5. Tenders by Sept. 5.

Denby Dale, Yorks.—Widening and reconstruction of Smithy Lane, Skelmanthorpe, from the junction of Commercial Road, for a length of approximately 250yd., for U.D.C. Documents from Joseph Berry and Sons, chartered architects, 5 Market Walk, Huddersfield. Deposit £2 2s. Tenders by Sept. 20.

Devonshire.—Tarpaving playgrounds, etc., to existing schools, etc., in the following areas for C.C.: North Devon; Mid-Devon; East Devon and Exeter; South-West Devon: Torbay. Applications to the County Architect, 97 Heavitree Road, Exeter, by Sept. 9.

Dumfries.—Formation of Rotchell Park for B.C., including the construction of approx. 970 lin. yd. of concrete kerbing and channeling, 2,900 sq. yd. of footpaths, 4,300 sq. yd. of carriageway and other incidental works. Documents from R. S. Osborne, borough surveyor, Municipal Chambers, Dumfries. Tenders by Sept. 1.

***Erith, Kent.**—Cold asphalt surfacing, Woolwich Road, for B.C. Deposit £2 2s. Tenders by Sept. 7.

Exeter.—Following for City Council: (1) Completion of South Street paving; (2) service road off Palace Gate; (3) reconstruction of Cathedral Yard and paving of piazza, comprising three separate road schemes in one contract. The works comprise in total the laying of 350 sq. yd. of 9in. reinforced concrete carriageway, 580 sq. yd. of 9in. dry-bound macadam carriageway and 3in. bitumen macadam surfacing, 1,270 sq. yd. of precast concrete and tarpaved footways, 180 lin. yd. of 6in. by 12in. concrete and granite kerbing and other incidental works. Documents from John Brierley, city engineer and surveyor, Municipal Offices, 7 Southertonhay West, Exeter. Deposit £2 2s. Tenders by Sept. 6.

***Filey, Yorks.**—Road works, Hunmanby Gap, for U.D.C. Tenders by Sept. 14.

Guildford, Surrey.—Making-up of (a) Henley Park; (b) Pennings Avenue; (c) Abbot's Close, for B.C., comprising for (a) 1,000 sq. yd. of Asphalt carriageway surfacing and 540 lin. yd. of concrete edging; (b) 740 sq. yd. of tarmacadam footpath and 300 lin. yd. of concrete edging; (c) 900 sq. yd. of tarmacadam footpath and 360 lin. yd. of kerbing, together with

ancillary works. Documents from the Borough Engineer's Office, Municipal Offices, High Street, Guildford. Tenders by Sept. 8.

*Harrow, Middx.—Uxbridge Road improvement, part III for B.C. Deposit £2. Tenders by Sept. 20.

Hazel Grove and Bramhall, Ches.—Reconstruction of flagged footways in Hazel Grove (approximately 1,000 sq. yd.) for U.D.C. Documents from the Engineer and Surveyor, The Council House, Hazel Grove. Tenders by Sept. 6.

Isle of Wight.—Proposed highway improvement at Blackwater Junction, Blackwater, near Newport, for C.C., including construction in lean-mix concrete and bituminous macadam of approx. 700 lin. yd. of carriageway not less than 22ft. wide, together with surface water drainage, fencing and other ancillary works. Documents from the County Surveyor, County Hall, Newport. Deposit £2 2s. The works are to be commenced during October and completed before March 31, 1961. Tenders by Sept. 13.

Keighley, Yorks.—Kerbining and flagging work on various sections of footpaths for B.C. Documents from the Borough Engineer's Office, College Street, Keighley. Tenders by Sept. 12.

Keighley, Yorks.—Making-up of Scott Lane West, Riddlesden, for B.C., approximately 128yd. in length, with tarmacadam on limestone carriageway, flagged footway and 9in. diameter sewer. Documents from the Borough Engineer's Office, College Street, Keighley. Tenders by Sept. 12.

Keighley, Yorks.—Construction of Hainworth Wood Road housing estate for B.C. Tenders by Sept. 15.

Larne, Antrim.—Laying of approximately 400 sq. yd. of bituminous macadam at Ballypriormore Cemetery, Islandmagee, for R.D.C. Documents from T. F. W. Nelson, clerk of Council, Prince's Gardens, Larne. Tenders by Sept. 7.

Leicester.—Widening London Road, between Conduit Street and Prebend Street, for City Council. The works consist of asphalt surfacing on a reinforced concrete slab in the new carriageway area, making-up existing carriageway, and footpath works. Documents from John L. Beckett, city surveyor, Town Hall, Leicester. Deposit £1 1s. Tenders by Sept. 16.

Lindsey.—Following for C.C.: Sheffield-Grimsby trunk road, A.18 (Scunthorpe to Brigg section). Holme-Broughton—highway improvements on the trunk road between Mortal Ash Hill and junction with B.1208 to Castelthorpe. (a) Clearing approx. 4½ acres of woodland, including felling trees, grubbing up roots, bushes, hedges, etc., on sites at New Forest plantation, Holme, Ermine Street cross roads and Broughton Lane plantation, Broughton; (b) supply and erection of approx. 2,600 lin. yd. of Lincolnshire fencing (oak posts and ash rails), field gates, etc. Documents from the County Surveyor, County Offices, Lincoln. Tenders by Sept. 2.

Liverpool.—Following for City Council: (a) Regrading, draining and paving playground extension, Holy Trinity R.C. Primary School, Banks Road, Liverpool, 19; (b) removal of boundary walls and railings, regrading, draining and paving site, Lambeth Road S.M. School, Liverpool, 5. Documents from the City Engineer and Surveyor, Municipal Buildings, Liverpool, 2. Tenders by Sept. 8.

Luton, Beds.—Final making-up of the following private streets for B.C.: (1) Arundel Road (part); (2) Selbourne Road (part); (3) Pembroke Avenue (part) and Dordans Road (part); (4) Wellgate Road (part). Documents from Borough Engineer, Town Hall, Luton. Deposit £2 2s. each, cheques payable to Corporation. Tenders by Sept. 5.

Malden and Coombe, Surrey.—Re-laying existing and supplying and laying of new artificial stone paving for B.C. Applications to John Apse, borough engineer and surveyor, Municipal Offices, New Malden. Tenders by Sept. 16.

Neath, Glam.—Shelone Terrace improvement for B.C., including the provision and laying of approximately 800 lin. yd. of 6in. by 12in. kerbs and the construction of approximately 730 super. yd. of road consisting of 8in. lean mix concrete foundation and 2,600 super. yd. of tarmacadam surface, together with all ancillary works. Documents from the office of the Borough Engineer, Gwyn Hall, Neath. Deposit £2 2s. Tenders by Sept. 10.

Neath, Glam.—Clearing and laying out of the extension at Ynysymaerdy cemetery, section B, for B.C., including the construction of 210 lin. yd. of access paths and roads in lean mix concrete with a spray and chip surface, 4,250 super. yd. to be ploughed, harrowed and seeded, together with all ancillary works. Documents from the office of the Borough Engineer, Gwyn Hall, Neath. Deposit £2 2s. Tenders by Sept. 10.

Neath, Glam.—Making-up of the following private streets for B.C.: (1) Gnoll Crescent, the works consist of approximately 640 super. yd. of tarmacadam carriageway, 250 super. yd. of footpath, together with all ancillary works; (2) Primrose Road, the works consist of approximately 2,400 super. yd. of tarmacadam carriageway, 1,880 super. yd. of footway, and 820 lin. yd. of 5in. by 10in. kerbing, together with all ancillary works; (3) Wenham Place, the works consist of approximately 500 super. yd. of tarmacadam carriageway, 170 super. yd. of precast paving slabs to footpaths, together with all ancillary works. Documents from the offices of the Borough Engineer, Gwyn Hall, Neath. Deposit £1 1s. each. Tenders by Sept. 10.

Newtownards, Down.—Improvement of Belfast Road from Manse Road to the Borough boundary, together with reinstatement of sewer track and ancillary works, section 2, for B.C. The contract provides for (approximately): (1) Construction of 800 sq. yd. of hardcore and asphaltic binder carriageway, 600 lin. yd. of concrete kerbs, 2,000 sq. yd. of concrete flagged footways; (2) reinstatement of 350 lin. yd. of sewer track; (3) 700 lin. yd. of 6in. surface water drain; (4) boundary fences, alteration to services and other ancillary works. Documents from the Borough Surveyor, 26 Frances Street, Newtownards. Deposit £3. Tenders by Sept. 5.

Northampton.—Construction of 10ft. wide mass concrete service road, approximately 60 lin. yd. with footpaths and drainage at Kislingbury, for R.D.C. Documents from the Surveyor, 1 Cheyne Walk, Northampton. Deposit £2 2s. Tenders by Aug. 31.

North Lonsdale, Lancs.—Reconstruction and improvement of the existing carriageway to the Council's new offices at Todbusk, Springfield Road, Ulverston. Documents from the office of H. Whittaker, engineer, 24 Queen Street, Ulverston. Deposit £2 2s. Tenders by Sept. 2.

Nottinghamshire.—Reconstruction of railway bridge, Newark, for C.C. Deposit £10. Tenders by Sept. 30.

Portstewart, Londonderry.—Reconstruction of 1,440yd. of the Strand Road from The Diamond to the Strand Hotel for U.D.C. Documents from the office of the Town Surveyor, Town Hall, Portstewart. Tenders by Sept. 6.

Sedburgh, Yorks.—Roadworks at Havera, for R.D.C. Documents from D. Waring, clerk of the Council, Council Offices, Sedburgh. Tenders by Aug. 31.

Southgate.—Reconstruction of junction of Winchmore Hill Road with Eversley Park Road, London, N.21, for B.C., including the construction of approx. 100 sq. yd. of 9in. concrete to form foundation of new carriageway, and provision and laying of approx. 750 sq. yd. of bituminous macadam surfacing, together with kerb, paving and other ancillary works. Documents from the Borough Engineer and Surveyor, Town Hall, Palmers Green, London, N.13. Tenders by Sept. 5.

Stockport, Ches.—Work at Fletcher Street car park for B.C., comprising shallow excavation, spreading and rolling of approx. 1,000 super. yd. of ashed surface, laying of approx. 180 tons of limestone chippings, 980 super. yd. of bituminous macadam base coat, land drains, and other incidental works. Documents from Borough Surveyor, Town Hall, Stockport. Tenders by Sept. 5.

Sunderland, Dur.—Reconstruction of Washington Road, for B.C., works comprising approximately 420 lin. yd. of 9in. stoneware pipe sewers, 8,250 sq. yd. of 8in. reinforced concrete carriageway and 3in. bituminous macadam surfacing. Documents from the Borough Engineer, 27 Fawcett Street, Sunderland. Deposit £2 2s., cheques payable to Corporation. Tenders by Sept. 9.

Surrey.—Carrying out approximately 8,000 cu. yd. of bulk excavation and haulage, with ancillary works, at Winkworth Hill, Hascombe, for C.C. Documents from County Engineer, Highways and Bridges Department, County Hall, Kingston-upon-Thames. Tenders by Sept. 10.

Surrey.—Roadworks on Alfold-Loxwood Road (B.2133), at Alfold, comprising realignment, widening, kerbing, drainage, footway, and ancillary works (approx. 1,300 lin. yd.) for C.C. Documents from the County Engineer, County Hall, Kingston-upon-Thames. Tenders by Sept. 16.

Sutton Coldfield, War.—Tamworth Road improvement, stage 2, for B.C., including the complete reconstruction of approx. 300 lin. yd. of carriageway, bulk excavation and erection of open pale fencing and four-rail fencing. Also included is approx. 2,400 sq. yd. of hot-rolled asphalt surfacing. Documents from the Borough Surveyor, Council House, Sutton Coldfield. Deposit £2. Tenders by Sept. 2.

West Riding.—Roadworks and drainage to the police housing site at Walton Lane, Sandal, near Wakefield, for C.C. Documents

from the County Architect, Bishopsgarth, Westfield Road, Wakefield. Tenders by Sept. 2.

***Wokingham, Berks.**—Footways and verges at Southlake estate for R.D.C. Deposit £1 1s. Tenders by Sept. 6.

***Woking, Surrey.**—Making-up Norfolk Farm Road for U.D.C. Deposit £2 2s. Tenders by Sept. 20.

Woking, Surrey.—Following at Hemite estate (part), for U.D.C., comprising approx. 2,500 sq. yd. of roadworks, 850 lin. yd. of kerbing, and 2,700 sq. yd. of bitumen macadam and asphalt footways, and ancillary works. Documents from Engineer and Surveyor, Council Offices, Guildford Road, Woking. Deposit £2 2s. Tenders by Sept. 5.

***York.**—Fossway (redevelopment) roads and sewers to City Council. Deposit £2. Tenders by Sept. 13.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Barnstaple, Devon.—Construction of about 1,100yd. of 6in. diameter stoneware sewers, together with manholes, etc., and a small sewage disposal works at Goodleigh, for R.D.C. Documents from Lemon and Blizard, chartered civil engineers, 1 Glenside, College Avenue, Mannamead, Plymouth. Deposit £3 3s. payable to R.D.C. Tenders by Sept. 9.

Beeston and Stapleford, Notts.—Audone Avenue flood relief scheme, Chilwell for U.D.C., consisting of the construction of 630 lin. yd. of concrete box culvert, internal dimensions 8ft. 3in. and 5ft., constructed in part across the main Derby-Nottingham railway line, 250 lin. yd. of 6ft. diameter concrete culvert, 930 lin. yd. of 12in. diameter to 24in. diameter pipes and the re-laying of 100 lin. yd. of 6in. diameter and 12in. diameter foul sewers. Documents from the Engineer and Surveyor, Town Hall, Beeston, Notts. Deposit £2 2s. Tenders by Sept. 6.

Bucklow, Ches.—Ashley sewerage and sewage disposal for R.D.C., including the construction of an ejector station and the laying of some 80yd. of 6in. diameter sewer and some 160yd. of 4in. cast-iron rising main. Documents from H. V. Shaw, engineer and surveyor, Dunham Mount, Dunham Road, Altringham. Deposit £3 3s. (cheques payable to R.D.C.). Tenders by Sept. 6.

Castlereagh, Down.—Provision and laying of approximately 1,400 lin. yd. of sewer pipes varying in diameter from 9in. to 18in., at Prince Regent Road, for R.D.C. Documents from the Council Offices, 368 Cregagh Road, Belfast. Deposit £3 3s. Tenders by Sept. 8.

Dungannon, Tyrone.—Annaghmore sewerage for R.D.C., consisting of the following work: (1) Constructing 270 lin. yd. 4in. diameter and 280 lin. yd. 6in. diameter earthenware sewers and nine manholes; (2) supplying and laying 1,860 lin. yd. of 3in. diameter spun-iron pipe; (3) constructing a sewage pumping house and a sewage treatment works. Documents from the Rural District Council Offices, Dungannon. Deposit £3 3s. Tenders by Sept. 5.

***Hatfield, Herts.**—Bell Bar sewerage for R.D.C. Deposit £5 5s. Tenders by Sept. 5.

Hawarden, Ches.—Proposed extension of sewer, Cymmau, Wrexham, for R.D.C. The extension will consist of approx. 210 lin. yd. 6in. diameter glazed stoneware pipes together with the construction of appurtenant concrete tube manholes, and re-connecting the existing property drains to the new system. Applications to the Surveyor, Council Offices, Hawarden, Chester. Tenders by Sept. 7.

***Highworth, Wilts.**—Castle Eaton sewerage and sewage disposal for R.D.C. Deposit £2 2s. Tenders by Sept. 20.

***Kingsclere and Whitchurch, Berks.**—Tadley sewage disposal for R.D.C. Deposit £5. Tenders by Sept. 26.

***Newbury, Berks.**—Sewage effluent pumping station and rising main for B.C. Tenders by Sept. 12.

Newcastle-under-Lyme, Staffs.—Ashley sewerage, contract 1, for R.D.C., including construction of about 750 lin. yd. of 6in. diameter glazed stoneware pipe sewers, with manholes and incidental works. Documents from A. H. S. Waters and Partners, engineers, 25 Temple Row, Birmingham, 2, or F. W. Ramm, clerk of the Council, Council Offices, Sidmouth Avenue, The Brampton, Newcastle-under-Lyme. Deposit £3 3s. Tenders by Sept. 9.

***Newmarket, Suffolk.**—Fordham sewerage scheme, contracts 1, 2 and 3 for R.D.C. Deposit £3 3s. each. Tenders by Sept. 17.

***Rotherham, Yorks.**—Slade Hooton sewage disposal for R.D.C. Deposit £5 5s. Tenders by Oct. 7.

***Scarborough, Yorks.**—Southern outfall sewer reconstruction, stage 2 for B.C. Deposit £2 2s. Tenders by Sept. 14.

Woodbridge, Suffolk.—Construction of approx. 1,635 lin. yd. of 4in. to 15in. sewers

and manholes, for U.D.C. Documents from the Surveyor's Office, Eden Lodge, Woodbridge. Deposit £2 2s. Tenders by Sept. 12.

STREET LIGHTING

Hale, Ches.—Installation of 210 lamps, 15ft. mounting height, with concrete columns and mercury vapour discharge lighting, on various unclassified roads, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Hale. Deposit £2. Tenders by Sept. 1.

Pontypridd, Glam.—Group A lighting in the town centre and a section of the Rhondda Road for U.D.C., involving the supply and erection of 32 steel columns complete with group A lighting units and 32 group A lighting units complete with bracket arms mounted on existing columns or existing buildings, together with wiring and testing. All lighting units to be of mercury vapour (M.B.F.U.) type. Documents from W. Clark Evans, engineer and surveyor, Municipal Buildings, Pontypridd. Deposit £2 2s. Tenders by Sept. 12.

Rushden, Northants.—Erection of approx. 110 concrete and cast-iron lighting columns, and the removal of approx. 44 cast-iron gas columns, for U.D.C. Documents from the Engineer and Surveyor, Council Buildings, Rushden. Tenders by Sept. 10.

Worksop, Notts.—Removal of existing street lighting standards and the supply, erection and servicing of the undermentioned street lighting units, for B.C.: One hundred sodium lanterns, 140-W, mounted on 25ft. steel columns. Tenderers may quote for: (1) Supplying only the lanterns, auxiliary equipment and lamps; or (2) the removal of existing lighting units and the supply of new standards, together with the wiring and fitting of all equipment; or (3) the whole of the work required. Documents from the Borough Engineer, Park House, Worksop. Deposit £3 3s. Tenders by Sept. 9.

INTERNATIONAL CONTRACTS

Auckland, New Zealand.—Following for City Council. Erection and completion of a structural steel building having 18 storeys above and three floors below ground level, with a total area of 154,000 sq. ft. Height from average ground level 240ft. It is intended to complete the building in not more than 2½ years. Prospective tenderers are invited to state in writing and supply proof, if required, of their experience in this type of work and their capacity to handle this project. A brief description of the proposed building and a photograph of the model may be obtained on application to The Executive Secretary, New Zealand House, 415 Strand, London, W.C.2. Particulars required should be forwarded so as to reach the Town Clerk, Town Hall, Private Bag, C.P.O. Auckland (New Zealand), by Sept. 5.

Nigeria.—Supply and erection of electrical plant to be installed in substations in the vicinity of Lagos for Electricity Corporation. The contract comprises indoor and outdoor 33-kV switchgear with associated control and relay equipment, 33-kV neutral earthing equipment and 11-kV and 6.6-kV switchgear of Messrs. A. Reynolle and Co., Ltd.'s manufacture for extensions to existing switchboards. The contract also includes erection of substation transformers. Tenderers are invited only from firms who are prepared to submit complete tenders but the purchaser reserves the right to place separate contracts for parts of the work. Documents from The Resident Engineer, The Electricity Corporation of Nigeria, Adelphi, John Adam Street, London, W.C.2, on receipt of £12 cheque, non-returnable. Tenders by Sept. 26.

AWARDS

BUILDING AND DECORATING (See also Housing Schemes)

Barsley, Yorks.—Extensions to factory at Barugh Green for Brook Motors, Ltd.—Vernon Dunk, Ltd., Summer Lane, Barsley.

Bedlington and Wallington, Surrey.—Supply and erection of 30 garages at Southway, Demesne Road estate, for B.C.—Marley Concrete, Ltd., Sevenoaks, £2,057 (recommended).

Birmingham.—Construction of a 20-storey Rotunda shop and office block at Bull Ring for Property and General Investments, Ltd.—G. Wimpey and Co., Ltd., Hammersmith Grove, London, W.6, estimated cost £1m. J. A. Roberts, architect, Chancery House, 86 New Street, Birmingham; and C. Weiss and

Partners, consultant structural engineers, 1 Wandsworth Road, London, S.W.8. Work commencing Oct.

Birtley, Dur.—Erection of office block for the Arctic Fuse and Electrical Manufacturing Co., Ltd. Fennell and Baddiley, architects, Bridge End Chambers, Chester-le-Street—J. Burnett and Son, Station Lane, Birtley, Co. Durham.

Brentford and Chiswick, Middx.—Following for B.C.: Repair and conversion of 87 Boston Manor Road, Brentford—G. W. Gillam and Sons, Ltd., 414 High Road, Harrow Weald, Middx., £5,500 (recommended); Broadlands Builders, Ltd., £5,617; Roger Miller, Ltd., £5,796; Ferris Bros., £7,954; Anstiss Builders, Ltd., £8,300; White and Thomas, £7,530.

Demolition of 14 Heathfield Terrace and the erection of one-storey building on the site—Roger Miller and Co., Ltd., 12 Pownall Gardens, Hounslow, Middx., £3,091 (recommended); S. T. Jagger and Sons, Ltd., £3,360; Roger Miller and Co., Ltd., £3,091; C. B. King, Ltd., £3,242; W. J. Whittall and Son, Ltd., £3,340; Ferris Brothers, £3,393.

Internal decoration of Kent House, Hogarth estate—C. A. Byrd, 16 The Spinney, Tattington Corner, Epsom, £2,342 (recommended); South London Decorators, Ltd., £3,814; Architectural Decorators, Ltd., £4,872.

Repair and conversion of 20 and 24 Grove Park Gardens, Chiswick—Decor (Richmond), Ltd., 7 Paradise Road, Richmond, Surrey, £7,010 (recommended); Stirton Partners, Ltd., £7,815; T. Peyton and Sons, Ltd., £9,549.

Repairs to concrete oversails at Strand-on-the-Green Primary School—Gunac, Ltd., Half Acre House, Brentford, £1,193 (recommended).

Brighton, Sussex.—Following for B.C.: Alterations at the Training College—A. J. Construction Co., Ltd., 9 Marlborough Place, Brighton, I, £2,855 (recommended); Elliott Bros. (Brighton), Ltd., £2,949; George Comber and Co., Ltd., £3,039; Edward Cox and Co., Ltd., £3,128; T. J. Braybon and Son, Ltd., £3,880; John W. Ridge, Ltd., £4,094; G. J. King and Son (Brighton), Ltd., £4,177; Field and Cox, Ltd., £4,188; F. T. Wilson and Sons, Ltd., £4,285; McKellar and Westerman, Ltd., £4,637.

Provision of a kitchen at St. John the Baptist R.C. Primary School—G. Watts and Co., Ltd., 4 Trafalgar Terrace, Brighton, I, £2,080 (recommended); Wm. Willett (Builders and Decorators), Ltd., £2,208; A. J. Construction Co., Ltd., £2,496; F. T. Wilson and Sons, Ltd., £2,621; E. Jeffery and Partners, Ltd., £2,673; G. J. King and Son (Brighton), Ltd., £2,689; H. A. Pocock, Ltd., £2,780; Field and Cox, Ltd., £2,830; Coel, Ltd., £3,585.

Adaptation of west wing of Warren Farm building to provide temporary accommodation for county secondary school purposes—John W. Ridge, Ltd., 42 Portland Street, Brighton, £9,378 (recommended); Dorsett Building Contractors, Ltd., £9,544; A. J. Construction Co., Ltd., £9,575; H. J. Paris, Ltd., £10,249; Patching and Son, Ltd., £10,292; F. T. Wilson and Sons, Ltd., £10,366; Rice and Son, Ltd., £10,793.

Repairs and conversion work at 18 Hamilton Road—Farmer (Brighton), Ltd., 57 Lavender Street, Brighton, £1,567 (recommended); H. A. Pocock, Ltd., £1,590; Edward Cox and Co., Ltd., £1,756; Elliott Bros., £1,819; G. Watts and Co., £1,957; A. J. Construction Co., Ltd., £1,960; G. J. King and Son, Ltd., £1,969; Mirfields (Brighton), Ltd., £2,000; Coel, Ltd., £2,075; T. J. Braybon and Sons, Ltd., £2,083; F. T. Wilson and Sons, Ltd., £2,158; J. W. Ridge, Ltd., £2,800; Field and Cox, Ltd., £2,890.

Exterior painting of wood and ironwork at Market Building—J. W. Ridge, Ltd., £720 (recommended); A. J. Construction, Ltd., £766; G. J. King and Son, Ltd., £877; A. and F. Pilbeam, £930; F. T. Wilson and Sons, £958; G. Watts and Co., £1,043; Field and Cox, £1,059; H. A. Pocock, Ltd., £1,139; Elliott Bros., £1,159.

Erection of an old people's home, Larchwood at Coldean—T. J. Braybon and Son, Ltd., 169 North Street, Brighton, £51,863 (recommended); F. T. Wilson and Sons, Ltd., £52,828; A. C. Jenkins, Ltd., £52,978; Drury Construction (Southern), Ltd., £54,129; Geo. Comber and Co., Ltd., £54,342; Rice and Son, Ltd., £54,461; Richard Cook and Sons (Crawley), Ltd., £54,469; A. Aldritt, Ltd., £56,413; A. J. Construction Co., Ltd., £59,176; Gee Walker and Slater, Ltd., £59,521; J. G. Robinson and Sons, Ltd., £59,837; Croudace, Ltd., £62,109.

Adaptation of 3 and 4 Eastern Terrace as training college hostels—A. J. Construction Co., Ltd., £15,538 (recommended); Edward Cox and Co., Ltd., £15,600; Elliott Bros. (Brighton), Ltd., £15,990; T. J. Braybon and Son, Ltd., £16,214; Gates and

Sons, Ltd., £16,297; John W. Ridge, Ltd., £16,528; G. J. King and Son (Brighton), Ltd., £16,634; F. T. Wilson and Sons, Ltd., £16,787; Field and Cox, Ltd., £17,328; McKellar and Westerman, Ltd., £17,432; George Comber and Co., Ltd., £18,974.

Buckinghamshire.—Sub-contracts for erection of structural steelwork, erection of the concrete structure for the teaching block, and for the supply of metal windows for new county secondary school at Wooburn for C.C.—J. W. Cubbage and Son, Ltd., Dashwood Avenue, High Wycombe, Concrete (Southern), Ltd., Green Lane, Hounslow and Rea Metal Windows, Ltd., respectively.

Deal, Kent.—Erection of 12 garages at St. Martins Road and 12 at Digma Gardens, for B.C.—Margate Building and Decorating Co., Ltd., 45 Dane Hill Cliftonville, Margate, £1,440 and £1,753, respectively (recommended).

Deal, Kent.—Erection of eight parking bays on the North Promenade between Exchange Street and the Royal Hotel for B.C.—Direct Labour. Estimated cost £3,600.

Docking, Norfolk.—Erection of public convenience at Holme Beach for R.D.C.—R. G. Gower and Son, Sunnyside, Church Lane, Heacham, King's Lynn, £998 (subject to Ministry approval).

Doncaster, Yorks.—Erection of a self-service supermarket at Balby for the Doncaster Co-operative Society, Ltd. G. S. Hay, staff architect—J. Dixon (Doncaster), Ltd., Greenfield Lane, Doncaster. Work commenced.

Downham, Norfolk.—Improvements to 42 pre-war houses for R.D.C.: Station Road and Church Road, Ten Mile Bank—M. J. Thompson (Fincham), Ltd., Fincham, King's Lynn, £3,314 and £5,133, respectively; Ely Road, Hilgay—J. A. Brothers, Adlington House, Watlington, King's Lynn, £3,066; Ryston End, Denver, and Lynn Road, Wimbottisham—P. J. Boughen, The Views, Lynn Road, Wimbottisham, King's Lynn, £3,744 and £1,447, respectively.

Eastbourne, Sussex.—Erection of a shop at Langney Village for B.C.—E. Powell and Sons, Ltd., 24 Channel View Road, Eastbourne, £3,100 (recommended).

Edinburgh.—Erection of an old people's home at Muirhouse Parkway, near Silverknowes, for City Council—Morton and Johnstone, Esk Side, Musselburgh, £59,450.

Edmonton, Middx.—Following for B.C.: External painting of Anvil, Walton and Durbin Houses and part of Valley House at Fore Street site—J. E. Paterson and Son, 186 West Green Road, London, N.15, £1,970; supply and design of steel reinforcement for block H, Claverings Industrial Estate—Reinforced Concrete Steel Co., Ltd., 54 Victoria Street, London, S.W.1, £6,450 (recommended).

Essex.—Erection of two additional classrooms and cloakrooms in timber at Colchester County High School for Girls for C.C. H. Conolly, county architect—Joseph Moss and Sons, Ltd., St. Helena Road, Colchester, £4,281. Work has commenced.

Exeter.—Construction of shops and offices at Sidwell Street, for the Church Commissioners—James Crosby and Sons, Ltd., 59 Queens Gardens, London, W.2. Estimated cost £150,000. Work about to commence.

Gloucester.—Rebuilding of premises at 51 Westgate Street for Cheltenham and Hereford Breweries, Ltd. L. W. Barnard and Partners, architects, 13 Imperial Square, Cheltenham—Ford and Weston, Ltd., Osmaston Road, Derby, £12,848.

Harrogate, Yorks.—Modernisation and extension of Duchy House Nursing Home for Nuffield Nursing Homes Trust—Walter Birch and Co., Ltd., Montpelier House, Cold Bath Road, Harrogate.

Heston and Isleworth, Middx.—Following for B.C.: Construction of stage II of the works and building maintenance central depot—A. J. Wait and Co., Ltd., Wellington Crescent, New Malden, Surrey, £63,174 (recommended negotiated tender).

Adaptation of the former gas cleansing station adjoining Heston Baths to a Civil Defence district training centre—J. and F. Hill, 15 Mount Pleasant Road, London, S.E.13, £1,787 (recommended, subject to C.C. approval); William Lacey (Hounslow), Ltd., £1,932; R. Ashworth and Son, £1,887; Roy Coughlan, Ltd., £1,884; R. C. Turner, £1,860; Stanley Raymond and Co., Ltd., £1,850; Ferris Bros., £1,806.

Keynsham, Som.—Erection of 62 traditional garages and ancillary works, as follows, for U.D.C.: 20 at Park Road, 27 at Farleigh Road and 15 at Holcombe Grove. F. B. Bryan, engineer and surveyor—E. C. Thomas, 43 Park Road, Keynsham, £11,037. Work to commence Sept. 1.

Loughborough, Leics.—Erection of the Herrick Arms licensed premises at Shelthorpe estate

for Ind Coope (East Midlands), Ltd., Warwick Brewery, Derby, E. W. Edwards, staff architect, and R. T. Day and Partners, quantity surveyors, Hill House, 69 Warley Hill, Brentwood, Essex—H. Hammond and Sons, Ltd., Bridge Street, Loughborough.

Maidstone, Kent.—Following for B.C.: Extension to Civil Defence headquarters at Kenmore—Robert Hall and Co. (Kent), Ltd., 3 Church Road, Paddock Wood, Tonbridge, £1,154; steelwork construction for tie baling shed at refuse destructor—Dawnays, Ltd., Steelworks Road, Battersea, London, S.W.11 (both recommended).

March, 1 of E.—Improvement works to 93 houses at Eastwood Avenue for U.D.C.—C. J. and G. Taylor, 30 Station Road, March, £14,615.

Middlesbrough, Yorks.—Conversion of the Gem Cinema, High Street, North Ormesby, into shops, stores and offices for the Moores Group (Organisation), Ltd., Fernwood Road, Jesmond, Newcastle upon Tyne, Kitching and Co., architects, 21 Albert Road, Middlesbrough—Stephen Coates, Ltd., Langbaugh Place, Middlesbrough.

Newcastle upon Tyne.—Erection of factory, warehouse, etc., at Portland Road for British Paints, Ltd. Plans by L. G. Moucheil and Partners, civil engineers, 24 Claremont Place, Newcastle upon Tyne—R. W. Bell and Co., Ltd., Mistletoe Road, Jesmond, Newcastle.

Conversion of the disused Grainger Cinema, Grainger Street, into shops for Dunn and Co. S. W. Milburn and Partners, architects, 9 Esplanade, Sunderland—J. and W. Lowry, 64 Bath Lane, Newcastle upon Tyne.

New Malden, Surrey.—Four-storey extension to factory premises at Burlington Lane for Shannon Systems (The Shannon), Ltd., Wallis Gilbert and Partners, architects, 5 Cromwell Road, London, S.W.7—Higgs and Hill, Ltd., Crown Works, South Lambeth Road, London, S.W.8. Estimated cost £100,000.

Norfolk.—Erection of a modern secondary school at Hellesden and extensions to Thorpe Grammar School for E.C.—Bush Builders (Norwich), Ltd., Mile Cross Lane, Norwich, £93,772, and H. C. Greengrass and Sons, Ltd., 161 Oak Street, £154,683.

Old Fletton, Hunts.—Improvements to five pre-war non-parlour type houses at Celta Road for U.D.C.—J. W. Barber and Son, 9 Church Street, Stanground, Peterborough, £970.

Peterborough.—Following works for the Joint Education Board: King's Schools combined educational and school meals project John Lucas (Peterborough), Ltd., 31 Dogs-thorpe Road, Peterborough, £86,069. Work just commenced.

Erection of three additional Medway classrooms as temporary accommodation at the Technical College—B. Stokeley, Ltd., Eastfield Road, Peterborough, £3,653.

Portsmouth.—Construction of a science laboratory at North End Modern School for Girls for E.C.—Payne Bros. (Portsmouth), Ltd., Fitzherbert Road, Farlington, Portsmouth, £7,259.

Portsmouth.—External painting of Council houses during 1960 for City Council: Site 13—Enfin, Ltd., £1,884 (recommended); Hostler and Smith, £1,817; H. Jones and Son, £2,360; R. W. Bailey, £2,913.

Site 14—Enfin, Ltd., £1,953 (recommended); Hostler and Smith, Ltd., £1,830; Johns and Harris, £1,965; H. Jones and Son, £2,259; R. W. Bailey, £2,738.

Site 15—Johns and Harris, Briarwood Mill Road, Fareham, £2,987 (recommended); Hostler and Smith, £2,827; R. W. Bailey, £4,163; H. Jones and Son, £4,183; Stride and Son, £3,937.

Site 16—Johns and Harris, £2,330 (recommended); H. Jones and Son, £2,608; Hostler and Smith, £2,152; Stride and Son, £2,475; R. W. Bailey, £3,163.

Site 17—Johns and Harris, £2,438 (recommended); H. Jones and Son, £2,728; Stride and Son, £2,527; Hostler and Smith, £2,252; R. W. Bailey, £4,548.

Site 18—A. Nicholson, 126 St. Andrews Road, Portsmouth, £700 (recommended); Hostler and Smith, £687; Johns and Harris, £738; Page and Whithouse, £942; E. and A. Spriggs, £1,035; Stride and Son, £946; R. W. Bailey, £1,352.

Site 19—Enfin, Ltd., £2,034 (recommended); Hostler and Smith, Ltd., £1,996; Johns and Harris, £2,109; H. Jones and Son, £3,140; E. and A. Spriggs, £2,699; Stride and Son, £2,496; E. J. Brockway, £2,916; R. W. Bailey, £3,655.

Site 20—Hostler and Smith, 27 Merthyr Avenue, Cosham, Portsmouth, £3,066

(recommended); H. Jones and Son, £3,714; E. and A. Spriggs, £3,770; Stride and Son, £3,467; R. W. Bailey, £4,404.

Site 21—Hostler and Smith, £1,069 (recommended); Johns and Harris, £1,128; H. Jones and Son, £1,674; E. and A. Spriggs, £1,617; Stride and Son, £1,467; R. W. Bailey, £1,955.

Site 22—Direct Labour, £1,310; 284 houses on sites E, F, G, H and I—Direct Labour, £1,087, £1,464, £1,372, £570 and £2,021 respectively (recommended).

Rochford, Essex.—Construction of 11 garages at Rochford Garden estate, for R.D.C. J. F. E. Nutt, engineer and surveyor—F. W. Bevan and Sons, Ltd., The Berrie, Ellesmere Road, Ashingdon, £1,676 (accepted); A. Winser, Ltd., £2,310; Rochford and District Building Co., Ltd., £2,443; R. T. Hall, £1,930; Castle Builders, £2,339. Work to commence September.

Salford, Lancs.—Erection of Dockers' Club on site bounded by Trafford Road, Monmouth Street and Garfield Street. Cruickshank and Seward, architects, Royal London House, 196 Deansgate, Manchester, 3—David Walton and Co., Ltd., Clarendon Road, Salford, 5, £23,647.

Salford, Lancs.—Erection of a group of 14 shops at Broughton Bridge—H. Lomas, Ltd., Teneriffe Street, Broughton, Salford.

Salisbury, Wilts.—Erection of the Salisbury and South Wiltshire College of Further Education at rear of St. Martins Church for Co. E.C.—W. E. Chivers and Sons, Ltd., Bulford Camp, Salisbury. Estimated cost £562,700. Site work commenced.

Sheffield.—Construction of new stand at Hillsborough Stadium for Sheffield Wednesday Football Club. Husband and Co., consulting engineers, 388 Glossop Road—George Longden and Son, Ltd., St. Peters Close, Sheffield, 1.

Stockton-on-Tees, Dur.—Additions to Stockton Magistrates' Courts for C.C.—A. Hughes and Co., 18 Wharf Street, Stockton, £3,779.

Sunderland, Dur.—Factory extensions at the Wear Glassworks for James A. Jobling and Co., Ltd., L. J. Couves and Partners, architects, Grainger Chambers, Hood Street, Newcastle upon Tyne—D. and J. Ranken, Ltd., Stockton Road, Sunderland. Estimated cost £200,000.

Sutton and Cheam, Surrey.—Rendering of pre-war scullery walls for B.C.—Croydon Builders and Contractors, 28 Colliers Water Lane, Thornton Heath, Surrey, £6,717 (recommended).

Swaffham, Norfolk.—Modernisation of 11 dwellings at Swaffham Road and six at Hale Road, Ashill, for R.D.C.—Minns Bros., Sedgford, King's Lynn, £5,260 (subject to Ministry approval).

Willesden, Middx.—Following for B.C.: Reinforced concrete frame and foundations for new office block—Phillips Structures, Ltd., Western House, Western Avenue, London, W.5, £46,839 (recommended, subject to Ministry approval).

Stone and brickwork repairs at Dudden Hill and Stonebridge Schools—London Stone Cleaning and Restoration Co., Ltd., 38 Grosvenor Gardens, London, S.W.1, £1,792, and Universal Cleaning and Restoration Co., Ltd., 13b Greek Street, London, W.1, £4,577.

Wilmslow, Ches.—Extension to store of Finnigans, Ltd., Alderley Road—J. Crosby and Sons, 59 Queens Gardens, London, W.2.

Worthing, Sussex.—Provision of a huttched classroom at the County Secondary School for Girls for B.C.—James Longley and Co., Ltd., East Park, Crawley, £1,435 (recommended).

CLOTHING AND TEXTILES

Heston and Isleworth, Middx.—Supply of following protective clothing for B.C.: Approximately 220 black cashmere coats and 220 leggings—Reggan Clothing Manufacturers, Ltd., Imex House, Theobalds Road, London, W.C.1, £683 and £313, respectively; 120 white Kersey donkey jackets—Cochrane Protective Clothing, Ltd., £283; 100 white Kersey donkey jackets Timex, Ltd., 102 Wardour Street, London, W.1, £275 (recommended).

DEMOLITION

Penge, Kent.—Demolition of four dwelling houses of four-storey type for U.D.C.—Frank Valori, Ltd., 34 Christchurch Road, Streatham, S.W.2, £98 (accepted); D'Marco (Demolition and Excavations), Ltd., £200; W. H. Penfold and Sons, Ltd., £789; G.A.C. Demolition Co., £400; J. Hunt (Erith), Ltd., £540. Work commenced.

Willesden, Middx.—Demolition of (a) 161 Willesden Lane and (b) properties in Willes-

den Lane clearance area for B.C.—B. Flintham, Ltd., 47 Heron Road, London, N.W.10, (a) £540 and (b) £1,570 (recommended).

ELECTRICAL

Buckinghamshire.—Electrical installation at Wooburn County Secondary School, for C.C. J. W. Cubbage and Son, Ltd., Dashwood Avenue, High Wycombe.

Downham, Norfolk.—Electrical installations in 42 pre-war houses at Wimbotsham, Denver, Hilgay and Ten Mile Bank for R.D.C.—Eastern Electricity Board, £1,157.

Edmonton, Middx.—Electric goods lift for block H, Claverings Industrial Estate for B.C.—Evans Lifts, Ltd., 66 Victoria Street, London, S.W.1, £2,740 (recommended).

Hull.—Electrical installations at Hull University Scientific Department—Stewart Maggs, Ltd., 41 Victoria Street, Doncaster, £80,000.

Peterborough.—Electrical installation in St. Mark's County School for the Joint Education Board—Peterborough and District Electrical Services, 8a Midgate, Peterborough, £1,156.

Richborough, Kent.—Construction of the superstructure of the Richborough Power Station for the Central Electricity Board. Mott, Hay and Anderson, consulting engineers, 9 Iddesleigh House, London, S.W.1.—Turriff Construction Corporation, Ltd., Warwick, £650,000.

FENCING

Brentford and Chiswick, Middx.—Following for B.C.: Fencing to tennis courts at Chiswick Back Common and Duke's Meadows—Truscott Fencing and Concrete Products, Ltd., Station Road, Dorking, Surrey, £678 (recommended); Permafence, Ltd., £764; Supreme Fencing Co., £725; Durafencing (London), Ltd., £680.

Fencing to south-west corner of Turnham Green Common—Truscott Fencing and Concrete Products, Ltd., £533 (recommended); David Rowell and Co., Ltd., £676; T. W. Palmer and Co., £706.

Willesden, Middx.—Provision of 8ft. concrete pale fence at Aylestone Avenue playing fields for B.C.—Metropolitan Concrete Works, Ltd., Imber Court, East Molesey, Surrey, £843 (recommended).

Worthing, Sussex.—Supply and erection of fencing at Palatine Road sports ground for B.C.—Truscott Fencing and Products, Ltd., Station Road, Dorking, Surrey, £1,032 (recommended).

GAS AND WATER SUPPLY

Cheadle, Staffs.—Extension of the water main to serve nine properties at Consall for R.D.C.—Bowmer and Kirkland, Heage, near Belper, Derbyshire, £2,712 (recommended, subject to Ministry approval).

Derwent.—Provision and laying of 3,715yd. of 4in. diameter asbestos-cement water mains from near Stillingfleet Hill Farm to Escrick for R.D.C.—Fairbank and Son, consulting engineers, The Gables, 62a Bootham, York—Squire W. Swift, Ltd., Selby, Yorks., £4,173 (accepted); The K.O.S. Construction and Engineering Co., £5,699; The Ridings Construction Co., Ltd., £5,122; G. A. Scaife, £4,501; D. S. Monk, £4,496; Bradley and Co. (Contracts), Ltd., £9,754. Work commencing September, October.

Devonshire.—Construction of Meshaw Moor booster pump house, in brickwork and tiled roof, 18ft. 6in. by 13ft. internally, situated on the reservoir site, approximately seven miles south of South Molton, contract 71B, for North Devon Water Board. Rofe and Rafferty, consulting engineers, 9 Brewer's Green, Buckingham Gate, Westminster, London, S.W.1—C. P. Unwin and Sons, Ltd., 33 St. Peter Street, £1,990.

Lincolnshire.—Laying and jointing of approximately four miles of 24in. diameter asbestos-cement pipes and other ancillary work from Tetney to Welsby, near Grimsby for the North East Lincolnshire Water Board. C. Cooper, engineer and manager—Winton Construction Co., Ltd., Louth, Lincs., £28,260. Work commencing September.

Newry, Armagh.—Following for R.D.C.: Water supply extension between Clontigora and Fathom Upper—P. Carvill and Sons, Ltd., Coolbawn Queen Street, Warrenpoint, £27,310; Meigh Clonlony extension—Patrick Rooney, Clonlony, Warrenpoint, £5,840; and the Crossmaglen-Crievekeeran extension—John Harvey, Crossmaglen, £5,067.

Northamptonshire.—Construction of the Manton water tower for the Higham Ferrers, Rushden and District Water Board—Vibrated Concrete Construction

Co., Ltd., 27 Ashley Place, London, S.W.1, £29,675.

Rugby, War.—Construction of a reservoir for the Wibtoft water supply scheme for R.D.C.—T. Vale and Sons, Ltd., Lombard Street, Stourport, £12,569 (subject to Ministry approval).

Whitehaven, Cumb.—Renewal of filtration plant at public baths for B.C.—Paterson Engineering Co., Ltd., 129 Kingsway, London, W.C.2, £2,327 (recommended).

HARBOURS, PIERS AND SEA DEFENCE WORKS

Stonehaven, Kincardines.—Foreshore and river protection works for B.C.: Briggs and Sons, Ltd., Dundee, £27,000.

HEATING AND VENTILATING

Buckinghamshire.—Heating installation at Wooburn County Secondary School, for C.C.—H. G. Goodman, Ltd., Caversham Road, Reading.

Penge, Kent.—Supply and installation of one solid fuel cast-iron sectional hot water boiler rated at approximately 650,000 B.Th.U./hr.; one hopper type underfeed automatic stoker to fire the above boiler, together with pipework adjustments, ancillary works and materials for U.D.C.—W. J. Fretwell (London), Ltd., 33 High Street, Plaistow, E.13, £855 (accepted); Riley (IC) Products, Ltd., £1,086; Heating Installations, Ltd., £904; Heating and General Engineering Co. (Catford), Ltd., £920; J. Wontner-Smith, Gray, and Co., £1,017; J. Jeffrays and Co., Ltd., £997.

Peterborough.—Extension to the Arthur Mawells Village College boiler plant, conversion to oil firing and incidental works for Joint Education Board—Clarks, Plumbers, Ltd., Maiden Lane, Stamford, £9,132.

HOUSING SCHEMES

Bexhill, Sussex.—Twelve aged persons' flats at Grovers Lane for B.C.—Knights (Sussex), Ltd., Bevvern Bridge, South Chailey, £16,080 (recommended, subject to Ministry approval).

Blackrod, Lancs.—Fifty-four dwellings, complete with drainage, paths and site layout, for U.D.C. J. F. Wood, surveyor.—G. and J. Seddon, Ltd., Little Hulton, £76,160. Work about to commence.

Brentford and Chiswick, Middx.—Following for B.C.: 15 flats on the site of 69-71 Ellesmere Road, Chiswick—C. Royal and Co., Ltd., Palmerston Road, London, £9,132.

W.3, £29,399 (recommended); M. Howard (Mitcham), Ltd., £31,739; Roger Miller Co., Ltd., £30,671; William Old, Ltd., £32,863; Perrys (Ealing), Ltd., £31,358; Stewart and Partners, Ltd., £32,545; S. Varney and Co., Ltd., £32,928; G. Ward (Ealing), Ltd., £30,868.

Four flats on site of 75 Strand-on-the-Green, Chiswick—R. Miller and Co., Ltd., 12 Powall Gardens, Hounslow, £12,875 (recommended).

Carlton, Notts.—Sixty houses at Phoenix Farm estate, site 36, scheme 90, for U.D.C. E. C. Kirk, engineer and surveyor—J. Searson, Ltd., Station Road, Sutton-in-Ashfield, £87,839.

Cumberland.—Four senior police houses on the Tower Hill estate, Whitehaven, for C.C.—J. Leslie and Sons, Coach Road, Whitehaven, £17,328.

Deal, Kent.—Four old persons' flats and six garages at Wellesley Avenue for B.C.—Styles (Contractors), Ltd., Dartford, £7,769 (recommended, subject to Ministry approval).

Dover, Kent.—Two pairs of houses and roadway at Queen's Rise, Ringwould, for R.D.C.—Hedgecock Bros., 253 London Road, Dover, £9,091.

Dundee.—Following for City Council: 334 houses at Midmill and 191 houses at Lin-gathen—Direct Labour, £393,492 and £234,008, respectively.

Two 15-storey blocks of flats to complete layout of Foggyley estate—Scottish Special Housing Association, Ltd., 15 Palmerston Place, Edinburgh, 12 (recommended).

Dungannon, Tyrone.—Demolition of existing buildings and the erection of 44 houses, 11 garages and ancillary works at Castle Lane, Caledon, for R.D.C. Wright and Partners, quantity surveyors, 79 Botanic Avenue, Belfast—Lees and Stewart, Ltd., Magherafelt, £65,207 (recommended); Ulster Construction Co., £72,004; McCaughey Bros., £73,785; Donnelly, Connolly and Fee, £77,116; James Corrigan, £86,000.

Eastbourne, Sussex.—One police house, 23 houses and 20 garages at Spots Farm, section 7, for B.C.—William Ellis (Etchingham), Ltd., High Street, Etchingham, Sussex, £43,900 (recommended).

Fennerdale, Cumb.—Fifteen bungalows at Frizington for R.D.C.—Thomas Armstrong, Ltd., 16 Robson Street, Newcastle upon Tyne, £20,870.

Tredegar, Mon.—Thirty-two houses for U.D.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worthing, Sussex.

Heckmondwike, Yorks.—Thirty-seven houses on Dale Lane estate for U.D.C.—Gregory Construction (Yorkshire), Ltd., 15 King Street, Huddersfield, £54,942.

King's Lynn, Norfolk.—Seventy-two dwellings at Mill Lane site for B.C.—Jaques and Greeves, Ltd., King's Lynn.

Maidstone, Kent.—Following for B.C.: Conversion of 13 London Road into flats for old people—Charles Walter, Ltd., 8 Upper Stone Street, Maidstone, £6,277; conversion of 107 Tonbridge Road into flats for old people—H. Goodsell and Son, Ltd., 32 Sandling Road, Maidstone, £8,365 (recommended, subject to Ministry approval).

Millom, Cumb.—Twenty-four bungalows for R.D.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

Oswestry, Salop.—Fifteen old people's bungalows at Middleton Road estate for B.C.—D. G. Clark, Gwernfodog, Pontfadog, Wrexham, £19,942 (subject to Ministry approval).

Rochford, Essex.—Terrace of three old people's bungalows at Alexandra Road, Hawkwell, for R.D.C. J. F. E. Nutt, engineer and surveyor—Hodgson (Wickford), Ltd., Torquay Drive, Leigh-on-Sea, Essex, £4,592 (accepted); S. Tyler, £5,153; W. H. Ellis and Sons (Hawkwell), Ltd., £5,168; A. Winser, Ltd., £5,728. Work to commence September.

Seaham, Dur.—Sixty-four one-bedroom two-storey flats in Station Road for U.D.C.—A. Barratt, surveyor—Direct Labour.

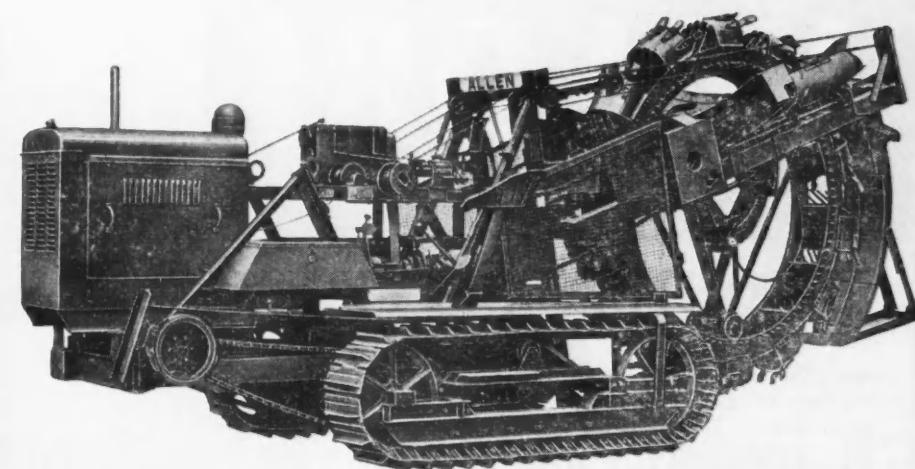
Shrewsbury, Salop.—Eleven old people's bungalows at Coton Hill for B.C.—M. A. Boswell (Contractors), Ltd., 124 Compton Road, Wolverhampton, £15,322 (recommended).

Sittingbourne and Milton, Kent.—Two blocks of H type flats (four flats per block) and three pairs of P type houses at Rectory Road, contract 16, for U.D.C. A. W. Lloyd, engineer and surveyor—T. R. Swann and Son, Staplehurst Road, Sittingbourne, £18,320.

Tow Law, Dur.—Twenty-eight houses for the North-Eastern Housing Association—G. M. Pearson and Son, Front Street, Hetton, Co. Durham.

Walsingham, Norfolk.—Thirty-one houses and one shop at Jubilee and Lee-Warner Avenues, Fakenham, for R.D.C.—Fisher and Sons (Fakenham), Ltd., Fakenham, £51,363.

Wellingborough, Northants.—Four houses at Hornby Road, Earls Barton, for R.D.C.—Argosy Construction Co., Ltd., £5,490.



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Wisbech, L. of E.—Six bungalows at New-town for R.D.C.—H. F. Mann, Friday Bridge Road, Elm, Wisbech, £7,937.

MATERIALS AND SUPPLIES

Edmonton, Middx.—Supply of the following for B.C.: 10 standards of scaffold boards—S.G.B., Ltd., Mitcham, £128 per standard; cast-iron soil and ventilating pipes and fittings and sanitary ware for Alpha Road scheme—Thames Bank Iron Co., Ltd., Lodge Road, London, N.W.8, £719, and B. Finch and Co., Ltd., 183 Hoe Street, London, E.17, £1,622, respectively. Doors (blocks C, D, E and F), and sanitary fittings for West Street redevelopment—W. Lawrence and Son, Ltd. 31 Sun Street, London, E.C.2, £1,000, and Stitson Sanitary Fittings, Ltd., 106 Victoria Street, London, S.W.1, £2,029, respectively (recommended).

MISCELLANEOUS

Croydon, Surrey.—Replacement of an electric cremator by a gas cremator at the Crematorium for City Council—Gibbons Askam, Ltd., Palace Chambers, Bridge Street, London, S.W.1 (recommended). Estimated cost £5,500.

PLANT AND MECHANICAL TRANSPORT

Bexhill, Sussex.—Supply of one Morris 3-ton model 304 FG forward control lorry and one Lo-Lode transport trailer, for B.C.—Caffyns, Ltd., Bexhill, £1,366 (recommended).

Godstone, Surrey.—Supply of a 3½-ton tipping lorry for R.D.C.—E. J. Baker and Co. (Dorking), Ltd., London Road, Reigate.

Worthing, Sussex.—Supply of one Bedford tipper for B.C.—Mansfields, Ltd., Up Brighton Road, Worthing, £951, less £80 in part exchange for existing vehicle (recommended).

PLAYING FIELDS, PARKS, ETC.

Bromley, Kent.—Surfacing and draining the entrance to the Public Golf Course at Magpie Hall Lane, erection of boundary walls and fences, and the conditioning and draining for use as a public recreation ground of the adjoining area of land lying between the golf course and the grounds of

Princes Plain School for B.C.—E. Doe and Sons (Contracts), Ltd., Fyfield, Ongar, Essex. Estimated cost £7,000 (recommended).

Ealing, Middx.—Layout of the garden land at Claypounds Garden estate, for B.C.: J. S. Bishop and Co., 76 Windsor Lane, Slough, Bucks, £5,645 (recommended); En-Tout-Cas Co., Ltd., £11,665; Grassphalte, Ltd., £7,992; Maxwell M. Hart, Ltd., £6,123; Hugh Pearl (Contracts), Ltd., £7,754; Sherwood Bros. (Agri Service), Ltd., £6,327.

Edmonton, Middx.—Layout of lawns, beds and special sports facilities at Rowntree School, for B.C.—Direct Labour, £2,804 (recommended).

Lymington, Hants.—Construction of a new cricket table at the borough council's recreation ground at New Milton for B.C. H. E. Stopher, borough engineer Surface Maintenance Services, Ltd., 124 Old Christchurch Road, Bournemouth, £640. Work commencing September.

Stockton-on-Tees, Dur.—Preparation of playing fields for the Fairfield Secondary Modern School for E.C.—Lonsdale and Co., Ltd., Ross Road, Stockton, £4,876.

Tottenham, Middx.—Construction of two tennis courts at The Paddock for B.C.—E. Doe and Sons (Contracts), Ltd., Fyfield, Ongar, Essex, £1,268 (recommended).

ADD RAILWAY ENGINEERING — — —

British Railways.—Following contracts placed: London Midland:

Repairs to roof at Road Motor Depot, St. Pancras—Structural Waterproofer, Ltd., 5-6 Nigel Playfair Avenue, London, W.6.

Waterproofing roofs at Sheet and Sack Stores, Trent—Evode, Ltd., Common Road, Stafford.

Soil investigation in preparation for reconstruction of Birmingham New Street Station—Terresearch, Ltd., Ruislip Road, Northolt, Greenford, Middx.

Construction of bridge to carry line over Birmingham/Preston Motorway at Knutsford for M.T.—George Dew and Co., Ltd., Main Road, Oldham.

Cleaning and painting of Manchester Central Passenger Station—Arundel (Contractors), Ltd., Harris Street, Bradford, Yorks.

Resurfacing of roadways at Blackpool Central Passenger Station and Preston Butler Street Goods Yard—Constable Hart and Co., Ltd., St. James Chambers, St. James Street, Derby.

Renewal of roof coverings at Coxley Green Carriage Shed—J. Rata and Co., Ltd., Chaper Road, Willesden Green, London, N.W.2.

ROADS, BRIDGES AND SITE WORKS

Andover, Hants.—Construction of roads and sewers for 120 houses at London Road site adjacent to Sheep Fair estate for B.C.—Direct Labour (recommended). Estimated cost £20,000.

Basildon, Essex.—Resurfacing of classified and district roads, comprising 4,300 sq. yd. heating and planing of carriage-way surface, 22,300 sq. yd. bitumen macadam carpet, 8,600 sq. yd. bituminous gravel macadam, and incidental works, for U.D.C. S. A. Wadsworth, engineer and surveyor—East Anglian Roadstone and Transport Co., Ltd., 66 Bracdon, Norwich, £10,457. Work to commence September.

Beddington and Wallington, Surrey.—Site works for 30 garages at Southway, Demesne Road estate, for B.C.—T. Vickers, Ltd., 288 Kingston Road, Leatherhead, £2,996 (recommended).

Bexhill, Sussex.—Construction of link road from Suffolk Road to Grovers Lane for B.C.—Stephen Carey, Ltd., Westwood Road, Bexhill-on-Sea, £1,922 (recommended).

Birmingham.—Construction of an underpass at Birchfield Road and reconstruction of the railway bridge at Perry Bar Station for City Council. Sir William Halcrow and Partners, consulting engineers, Alliance House, Caxton Street, London, S.W.1—Tarmac Civil Engineering, Ltd., Wolverhampton, £440,000. Work to commence in autumn.

Brentford and Chiswick, Middx.—Resurfacing playgrounds at Belmont Primary and Hogarth Secondary Schools for B.C.—Allmacadams, Ltd., 332 Brighton Road, South Croydon, £2,488 and £1,582, respectively (recommended).

Brighton, Sussex.—Following for B.C.: Filling in the ground on the southern side of the three nursery houses at Hollingdean, Lower Bevenden and South Woodingdean and

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providing paved terraces with fences and steps—F. T. Wilson and Sons, Ltd., 115 St. James's Street, Brighton, £1,250 (recommended, extension of contract).

Roads and sewers for self-build site at Hollingdean—S. M. Tidy (Public Works), Ltd., 161 Preston Road, Brighton, 6, £57,729 (recommended); H. Pannett (Civil Engineering), Ltd., £58,675; Rice and Son, Ltd., £64,173; J. W. Gammons and Co., Ltd., £64,571; Nicholson Construction Co., Ltd., £65,823; Cox (Public Works), Ltd., £66,128.

Roads and sewers for self-build site at Moulsecoomb—S. M. Tidy (Public Works), Ltd., £28,258 (recommended); A. C. Jenkins, Ltd., £28,414; H. Pannett (Civil Engineering), Ltd., £28,523; Rice and Son, Ltd., £30,966; Nicholson Construction Co., Ltd., £31,011; J. W. Gammons and Co., Ltd., £31,150; K. Mikolay and Son, Ltd., £34,247.

Bromley, Kent.—(a) Reconstruction of the remainder of White Hart Slip, making-up Lowndes Avenue and construction of a new road connecting Lowndes Avenue with Hollywood Road, including reconstruction and extension of an existing surface water sewer and (b) improvement of the access ramp at the Mill Vale surface water storage lake for B.C.—Frank Harris Bros., Ltd., Station Approach, Guildford, Surrey, £9,964 and £1,068, respectively (recommended).

Cockermouth, Cumb.—Street works in Rose Lane and Isel Road for U.D.C. J. J. Paterson, surveyor—Eden Construction Co., Ltd., English Damside, Carlisle.

Cowes, I. of W.—Construction of a wall and pavement along Queens Road on the edge of Princess Green for U.D.C.—Cheek Bros., Ltd., 1 Church Litten, Newport, I. of W., £4,909.

Deal, Kent.—Construction of a footway in Beach Street between North Street and the Coastguard Station for B.C.—Direct Labour Estimated cost £1,500.

East Suffolk.—Realignment and widening to 24ft. of approximately 800 lin. yd. of the west carriageway of trunk road A.12 at Copdock for C.C. J. B. Lund, county surveyor—Roadworks (1952), Ltd., Commercial Road, Ipswich, £16,912. Work commenced.

Edmonton, Middx.—Resurfacing of three tennis courts in Pymmes Park and two at Church Street for B.C.—G. Skinner and Sons, Ltd., rear of 8 Carterhatch Lane, Enfield, £922 (recommended).

Farnham, Surrey.—Making-up of Bridgefield (part of) for U.D.C. Geoffrey Poole, engineer and surveyor—Surface Maintenance Services, Ltd., Durham House, Old Christchurch Road, Bournemouth, £3,880 (subject to Ministry approval).

Faversham, Kent.—Brents redevelopment, comprising approximately 1,475 super. yd. of 6in. reinforced concrete carriageway, 110yd. 6in. surface water sewer, and appurtenant works for B.C. A. C. E. Richardson, borough engineer—Robert Savill, Ltd., Canterbury, £4,994 (accepted); T. H. Contractors, Ltd., £5,017; Maidstone Contractors, Ltd., £5,115; Bensted Contractors, Ltd., £5,136; Johnson Bros. (Aylesford), Ltd., £5,244; Bowzell, Ltd., £6,325.

Heston and Isleworth, Middx.—Resurfacing of High Street, Hounslow, from Bell Corner to the Broadway for B.C.—Surrey Bituminous Supplies, Ltd., Littleton Lane, Shepperton, Middx., £8,727 (recommended, subject to C.C. approval).

Knutsford, Cheshire.—Construction of a bridge to carry the railway over the Birmingham-Preston Motorway at Knutsford to M.T.—G. Dew and Co., Ltd., Main Road, Oldham. Estimated cost £90,000.

Lichfield, Staffs.—Reconstruction of carriageways in Market, Dam, Conduit and Breadmarket Streets for City Council—Direct Labour (subject to Ministry approval). Estimated cost £11,000.

Maidenhead, Berks.—Following for B.C.: Drainage and surfacing works at Central Car Park, stage II—T. Stetvns and Son, 62 Cox Green Road, Maidenhead, £6,762 (recommended).

Foundation works at Central Car Park—Direct Labour (recommended). Estimated cost £3,000.

Maidstone, Kent.—Construction of roads and sewers on portion III of Park Wood housing estate for B.C.—P. A. Barden and Sons, Ltd., Weavering House, Ashford Road, Maidstone, £51,639 (recommended, subject to Ministry approval).

Manchester.—Construction of access roads and hard standings in connection with a new repair berth for the Manchester Dry Dock Co.—J. Crosby and Sons, 59 Queens Gardens, London, W.2.

Neath, Glam.—Site preparation at Cimla 3 housing site, section B, for B.C., comprising the provision and laying of approximately 144 lin. yd. of 6in. foul sewers, 446 lin. yd. of 7in. and 6in. surface water sewers, and the construction of approximately 440 lin. yd. of roads and footpaths, including kerbing, together with the construction of manholes and other ancillary works—T. Gallagher and Son, Ltd., 4 Oaklands Drive, Bridgend, Glam.

New Barn, Kent.—Surfacing of road and footpath in tarmacadam to serve 10 bungalows at Dene Drive for A. E. Blackwell, Ltd., Hodsons, Ltd., 17 Wrotham Road, Gravesend.

Scarborough, Yorks.—Resurfacing with asphalt part of the trunk road, A.64 (Eastborough

and Newborough from Leading Post Street to St. Nicholas Street), and county road, A.165 (Valley Bridge and Valley Bridge Road from the south end of the Valley Bridge to Westborough) for B.C.—John Hinchliff and Sons, Ltd., Wakefield Road, Barnsley, £1,270 and £9,085, respectively (recommended).

Sittingbourne and Milton, Kent.—Laying approximately 13,000 sq. yd. of 3in. asphalt wearing course and adjusting levels of manhole covers, etc., for U.D.C. A. W. Lloyd, engineer and surveyor—The General Asphalt Co., Ltd., Grafton Road, London, N.W.5, £3,496.

Solihull, War.—Widening and reconstruction of Danford Lane for a distance of approximately 350yd. for B.C.—Mee Mulrey, Ltd., 365-369 Olton Boulevard East, Birmingham, 27, £9,800.

Standish-with-Langtree, Lancs.—Surface dressing of approximately 16,500 sq. yd. of road using cold bituminous emulsion and granite chippings for U.D.C. H. Knowles, surveyor and water engineer—N. E. Box and Co., Ltd., Broadheath, Altrincham, Cheshire, £834.

Stonehaven, Kincardines.—Construction of a footbridge over the mouth of the River Cowie for B.C.: Briggs and Sons, Ltd., Dundee, £2,243.

Sutton and Cheam, Surrey.—Following for B.C.: Road surfacing programme, 1960-61—W. F. Rees, Ltd., Marlpit Lane, Coulsdon, Surrey (recommended, extension of contract).

Reconstruction of footpaths, stage III—W. H. Gaze and Sons, Ltd., 19 High Street, Kingston-upon-Thames, £15,073 (recommended).

Wakefield, Yorks.—Road works for erection of houses at Sharlston, scheme 47, for R.D.C.—C. and F. Construction Co., 99 Leeds Road, Newton Bar, Wakefield, £11,014.

West Hartlepool, Dur.—Street works in Coniscliffe Road for B.C. J. S. Miles, borough engineer—Direct Labour, £4,000.

Worthing, Sussex.—Making-up Wiston Avenue and Brook Barn Way for B.C.—E. Jenkins and Sons (Ferring), Ltd., Littlehampton Road, Ferring, Worthing, £2,806, and C.B.H. Construction, Ltd., Northbrook Road, Worthing, £3,977 (respectively recommended).

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Arbroath, Angus.—Construction of sewage disposal works and pumping station, contract 2, for B.C. G. H. Rodger, burgh engineer—W. J. Anderson, Ltd., Balmoral Works, Balmoral Road, Aberdeen, £32,651.

Barnard Castle, Dur.—Sewerage and sewage scheme at Headlam for R.D.C. F. Blen-

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- Kinsopp, surveyor—R. Dodds and Sons, Ltd., Melsonby, Richmond, Yorks.**
- Brandon, Dur.**—Deerness main sewerage scheme for U.D.C. Work involves the provision and laying of 8,300yd. of 6in. to 24in. sewers with manholes, construction of sewage works and provision and laying of 600yd. of pumping main. Waterhouse and Routhwaite, consulting engineers, 165 Westmorland Road, Newcastle upon Tyne—Thyssen Shaft Sinking Co., Ltd., New Malden.
- Chigwell, Essex.**—Surface water sewer at Pylles Lane, Loughton, for U.D.C., comprising 156 lin. yd. of 24in. diameter concrete tubes, concrete surrounds and manholes, and 160 lin. yd. 4in. diameter land drains.—John Sugrue and Sons, Ltd., 194 High Road, Kilburn, N.W.6, £1,715.
- Erpingham, Norfolk.**—Construction of a sewerage scheme for Gingham, for R.D.C.—Plumbly and Gaze, Ltd., Baconsthorpe, North Walsham, £8,461 (subject to Ministry approval).
- Gloucester.**—Construction of Longford sewage disposal works, extension scheme, contract 3, for R.D.C. H. Bateman and Partners, consulting engineers, Bath—Humphreys, Ltd., Knightsbridge, London, S.W.7, £128,729 (subject to Ministry approval).
- Gorebridge, Midlothian.**—Alterations and extensions to the sewage purification works at Middleton Camp, Gorebridge, for Scottish National Camps Association, Ltd. Carfrae and Morrison, civil engineers, 4 Hill Street, Edinburgh, 2—John Monteith, Ltd., 6 White Hart Street, Dalkeith.
- Leyburn, Yorks.**—Extension of sewer at St. Mary's Mount for R.D.C., including providing and laying 343 lin. yd. of 6in. glazeware pipes, together with the construction of manholes and all contingent works. W. Sutton, surveyor—P. Durkan, Ltd., Ure Bank Terrace, Ripon, £1,433 (accepted); W. F. Kirby, Ltd., £1,514; Chapple and Sons, £1,593; R. H. Thistlethwaite, Ltd., £1,622.
- Maidstone, Kent.**—Supply of following mechanical plant for sewage disposal works extensions at Aylesford for B.C.—mechanical screens and conveyor belt—Hartley's Ltd., Kearsley Chambers, Stoke-on-Trent, £7,120; screenings washer—Ames Crosta Mills and Co., Ltd., Heywood, Lancs, £1,421; filter distributors—
- Hartley's, Ltd., £6,360; humus tank sludge scrapers—Templewood Hawksley, Ltd., 2 Buckingham Avenue, Slough, Bucks., £10,568 (recommended).
- Marlborough and Ramsbury, Wilts.**—Construction of the Great Bedwyn drainage scheme, contract 5, for R.D.C. John Taylor and Sons, consulting engineers, Artillery House, Artillery Row, London, S.W.1—T.H. Contractors, Ltd., Chiswick High Road, London, W.4, £65,788. Work about to commence.
- Rickmansworth, Herts.**—Construction of 450 lin. yd. of 6in. diameter cast-iron rising main and 100 lin. yd. 9in. diameter glazed stoneware pipe sewer, together with manholes and connections, along Uxbridge Road, for U.D.C. F. A. J. Smith, engineer—J. Bray, 76 Houseland Road, Nottingham, S.E.9, £4,131. Work to commence Sept. 5.
- Rickmansworth, Herts.**—Construction of 210 lin. yd. of 27in. diameter precast concrete culvert and for the construction of five manholes for U.D.C. The works are to be carried out in gardens at the rear of houses in Davenham Avenue and Batchworth Lane—Flynn Excavations, Ltd., 89b The Broadway, Wimbledon, £2,160.
- Walsingham, Norfolk.**—Construction of the Blakeney, Morston and Wiveton sewerage scheme for R.D.C.—M. Maclean, Holt Road, Cromer, £90,266 (subject to Ministry approval).
- Walsingham, Norfolk.**—Stages II and III of the Fakenham and Hempton sewerage scheme for R.D.C.—M. Maclean, Holt Road, Cromer. Estimated cost £57,000.
- STREET LIGHTING**
- Esher, Surrey.**—Supply, erection and wiring of 178 concrete and 14 steel columns for U.D.C.—Gallagher and O'Brien Enterprises, Ltd., Cumberland Chambers, Church Gate, Loughborough, £13,040.
- Eston, Yorks.**—Supply and erection of 51 street lighting units at High Street and Church Lane for U.D.C.—N. C. Harrison, engineer and surveyor—Cohen Bros. (Electrical), Ltd., 11 King Edward Buildings, Bury Old Road, Manchester, 8, £1,987.
- King's Lynn, Norfolk.**—Street lighting scheme for Town Centre for B.C.—Abacus Engineering, Ltd., Russell Chambers, 2 King Street, Nottingham, £2,761 (recommended).
- Air Ministry.**—Contracts to the value of £4,000 or over for the week ended Aug. 12: Building work: Daws Hill, Bucks.; Janes (Builders), Ltd., Buckingham Avenue Trading Estate, Slough, Bucks.; Carnaby, Yorks.—A. J. Darneley and Son, Ltd., 68 Spring Street, Hull, Yorks.; Middleton St. George, Co. Durham—W. Sanders Hutton, Ltd., 43 Coniscliffe Road, Darlington, Co. Durham; Edzell, Angus, Scotland—William Tawse, Ltd., Angusfield, Aberdeen; Coningsby, Lincs.—J. T. Barber and Son, 40 Hessle Avenue, Boston, Lincs.; prefab. sectional buildings (supply and erection): various A.T.C. units in U.K.—Spooner's (Hull), Ltd., Stoneferry, Kingston-upon-Hull.
- Artificers' work: Chivenor, Devon—James Dennis and Son, Ltd., Knowle, Braunton, Devon; Stanbridge, Beds., etc.—M. and F. O. Foster and Co., Ltd., 23 York Road, Hitchin, Herts.

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Heating installations: Bovingdon, Herts.—Ashwell and Nesbit, Ltd., Barkby Road, Leicester.

Supply and installation heating and ventilating apparatus: Kemble, Glos.—Andrew Air Conditioning, Ltd., Woodbank Works Stockport, Ches.

Metropolitan Police.—Recent contracts placed include:

Builders' attendance on conversion to oil-fired heating, Old Street Magistrates Court—Charles R. Price, £1,294.

External painting Lambeth buildings and garages—F. Troy and Co., Ltd., £2,163.

Extension of I.P.S. accommodation, Walton Street Juvenile Court and Probation Offices—Apletree and Son, £7,714.

External painting and internal redecorations, Sandgate House and Mount Close, Ealing—The Middlesex Paint Craftsmen, £6,698.

External painting and internal cleaning and redecorations, Twickenham Police Station—W. J. Dickens, Ltd., £1,069.

Ministry of Finance, Northern Ireland.—Contracts exceeding £250 in value placed during the period July 18 to Aug. 5, inclusive:

Low pressure hot water heating, etc., Pig Progeny Testing Station: Greenmount Agricultural College, Muckamore—J. W. Thompson and Sons, Ltd., 6 Madrid Street, Belfast, 5.

Construction of timber poultry house, etc.: Loughry Agricultural College—J. Rowes of Dunkeswell, Honiton, Devon.

Erection of M.T. Workshops, etc.: Post Office, Enniskillen—J. J. Scalton and Sons, Ltd., Irvinestown, Co. Fermanagh.

Sanitary plumbing in hostel: Greenmount Agricultural College, Muckamore—T. Crowe, Ltd., 89 Academy Street, Belfast, 1.

Tiling to floor, etc.: Ministry of Agriculture, N.W. School, Strabane—R. Cunningham and Sons, 10 Bridge Street, Strabane.

Alterations, etc.: P.O. Engineering Section, Church Street, Omagh—McAfee and Teague, Omagh Road, Dromore, Co. Tyrone.

Low pressure hot water heating, etc.: New Office Building, Stormont—G. N. Haden and Sons, Ltd., 32 Linenhall Street, Belfast, 2.

Ministry of Works.—Contracts placed for week ended Aug. 6:

Berkshire: Telephone Exchange, Sun Passage, Windsor—erection—Clayton Heath, Ltd., Boyne Works, Maidenhead.

Dumfriesshire: Automatic Telephone Exchange, Victoria Road, Annan—erection—J. Combie and Son (Annan), Ltd., Caruthertown.

Flintshire: Polish Hospital, Penley—decoration work—E. H. Evans and Co., 12 Ridley View, Queens Park, Wrexham.

Hertfordshire: Warren Springs Laboratory, Stevenage—accommodation for M.O.W. engineers—Crook Bros. Wotton, Ware; Ministry of Labour, Watford—builder's work in connection with installation of electronic computer—Payne Bros. (Leavesden), Ltd., Leavesden, Watford.

London: Admiralty, Whitehall—electric lighting, etc.—Read and Partners, Ltd., 28 Hatfields, Stamford Street, S.E.1; Royal Courts of Justice, Strand, W.C.2—external and internal decorations—South London Decorators, Ltd., Streatham High Road, S.W.16.

Midlothian: Joint Office Building, 26 Eilden Street, Edinburgh—alterations—Alexander Kent, 22 Brunswick Road, Edinburgh, 7.

Shropshire: Post Office and Sorting Office, Willow Street, Oswestry—erection—W. Watkins and Co., Ltd., 18 Oswald Road, Oswestry.

Wigtownshire: Coastguard House, Portpatrick—erection—Mackenzie and Partners, Ltd., South Strand Street, Stranraer.

Contracts placed for week ended Aug. 13:

Aberdeenshire: Library and Laboratory, Torry, Aberdeen—erection—W. Anderson, Ltd., Balmoral Works, Balmoral Road, Aberdeen.

Lanarkshire: Hydraulics Buildings, East Kilbride—installation of No. 2 motor generator set—Associated Electric Industries, Ltd., Mosley Road Works, Bradford Park, Manchester.

Lancashire: Telephone Exchange, Church Street, Heywood—erection—P. Hamer, Ltd., Park Street, Swinton; National Assistance Board Office, Princess Drive, Huyton—erection—James Tomkinson and Co., Ltd., 22 Roscommon Street, Liverpool, 5.

London: Government Office Building, Whitehall Gardens, S.W.1—internal cleaning and decorations—Architectural Decorators, Ltd., 79 Eccleston Square, S.W.1; British Museum, Great Russell Street, W.C.1—reinstatement of war damage in Duveen Gallery—Hove and White, Ltd., 35 Manor Road, Wallington, Surrey.

Middlesex: Post Office, Harrow Road, Wembley—provision of oil firing plant—Rawlings Bros., 85 Gloucester Road, S.W.7.

Sussex: Automatic Telephone Exchange, Forest Row—erection—James Longley and Co., Ltd., Crawley.

Yorkshire: New Telephone Exchange, Morley, Leeds—erection—J. Pulham and Sons, Ltd., Manor Works, Beeston, Leeds, 11.

Post Office.—Contracts for duct laying, etc., works to the value of £4,000 and over placed during the week ended Aug. 13:

P. J. Byrnes, 168 St. Michaels Hill, Cotham, Bristol, 2; C.D.L. Construction Co., Ltd., Church Road, Egham, Surrey; James Cooper (Construction), Ltd., 28 Kensington Church Street, London, W.8; A. H. Dingle, Ltd., Seton, Mount Ambrose, Redruth, Cornwall; J. Murphy and Sons, Ltd., 43 Charteris Road, Finsbury Park, London, N.4; D. J. Sullivan (Bristol), Ltd., 16 Burlington Road, Redland, Bristol, 6.

War Department.—Contracts placed for the week ended Aug. 5:

Essex (Colchester): painting—Donald Humberstone and Co., Ltd., Louth; (Foulness Island): housing—W. and C. French, Ltd., Buckhurst Hill.

Flintshire (Rhyl): roadwork—Shepherds (Rochdale), Ltd., Rochdale.

Hampshire (Aldershot): building—Davies and Rentowl (Aldershot), Ltd., St. Albans.

Northumberland (Newcastle upon Tyne): roadwork—Favor Construction Co., Ltd., Shipley.

Nottinghamshire (Chilwell): building—Harold Ashley and Son, Ltd., Mansfield Woodhouse.

Surrey (Camberley): building—F. Church, Oxford; hutting—Davies and Rentowl (Aldershot), Ltd., St. Albans.

Wiltshire (Shrivenham): roofing—T. H. Kingerlee and Sons, Ltd., Oxford.

Yorkshire (Catterick): painting—Donald Humberstone and Co., Ltd., Louth.

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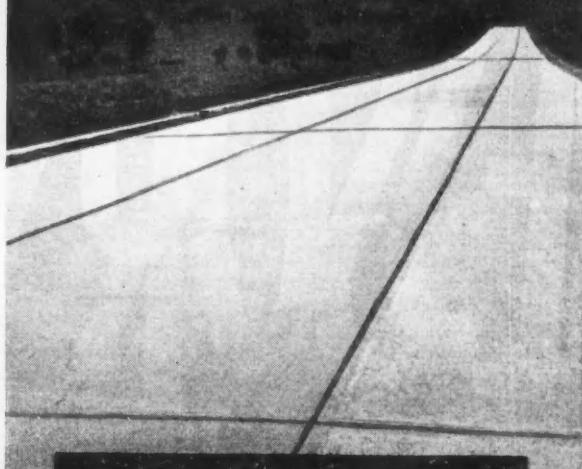
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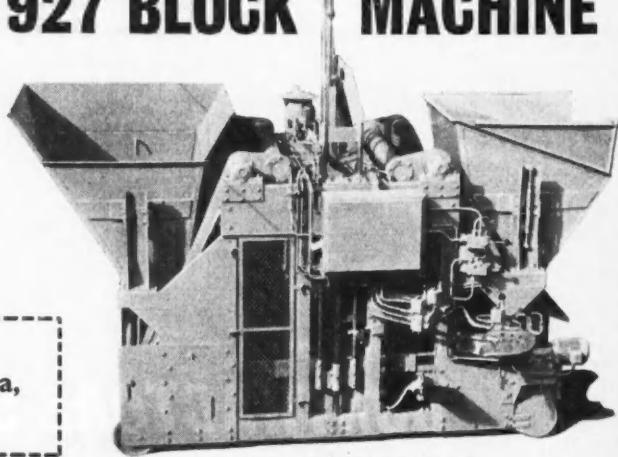
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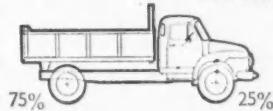
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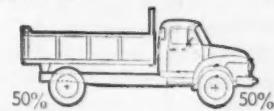
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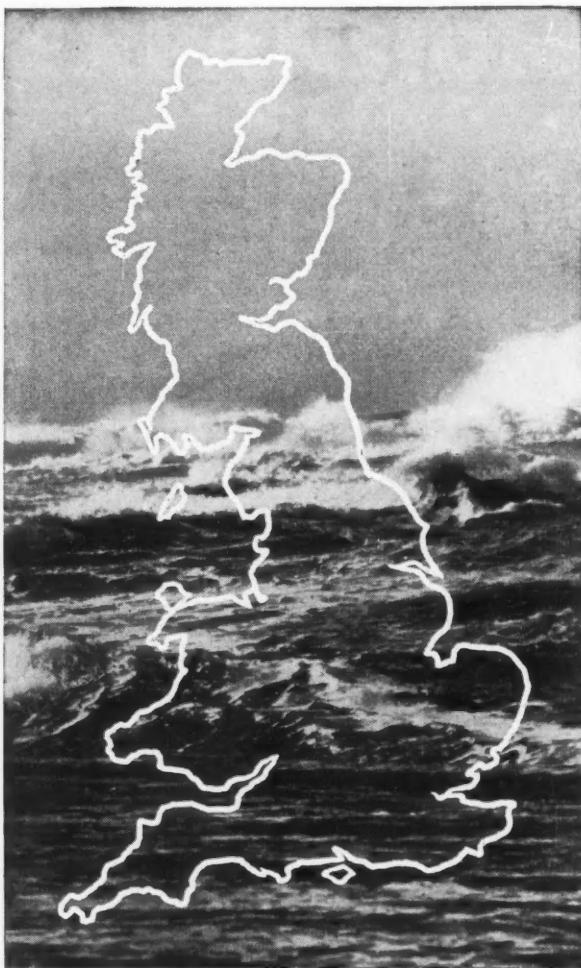


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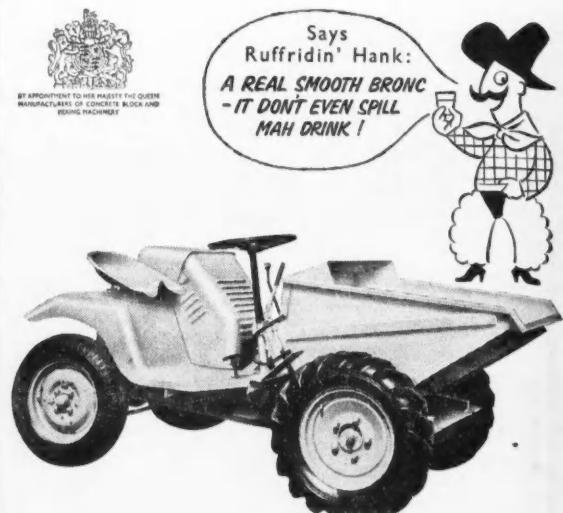


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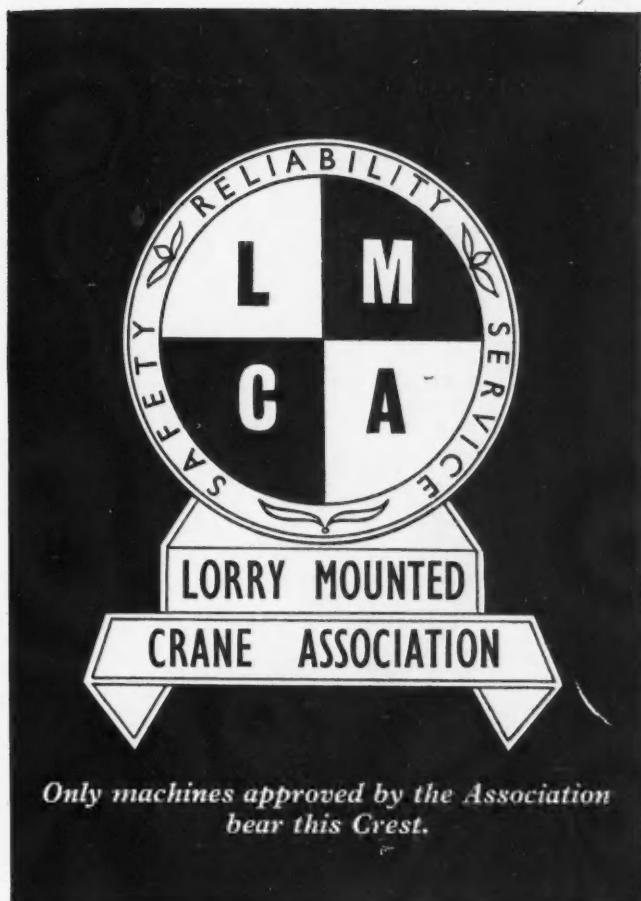
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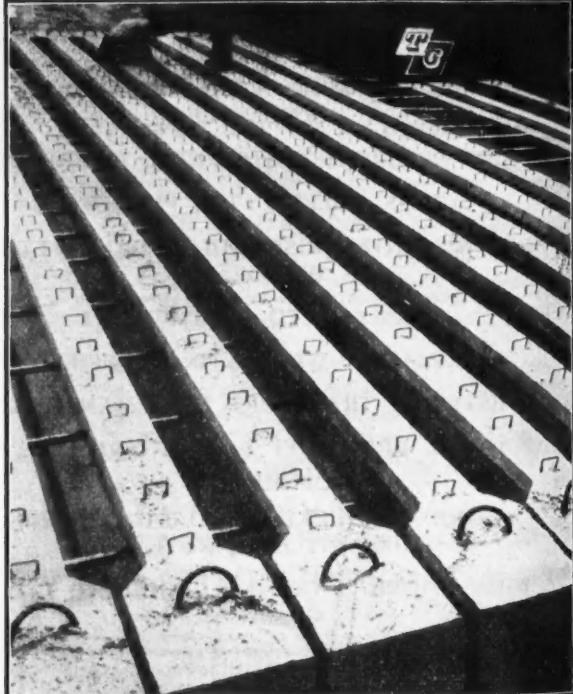
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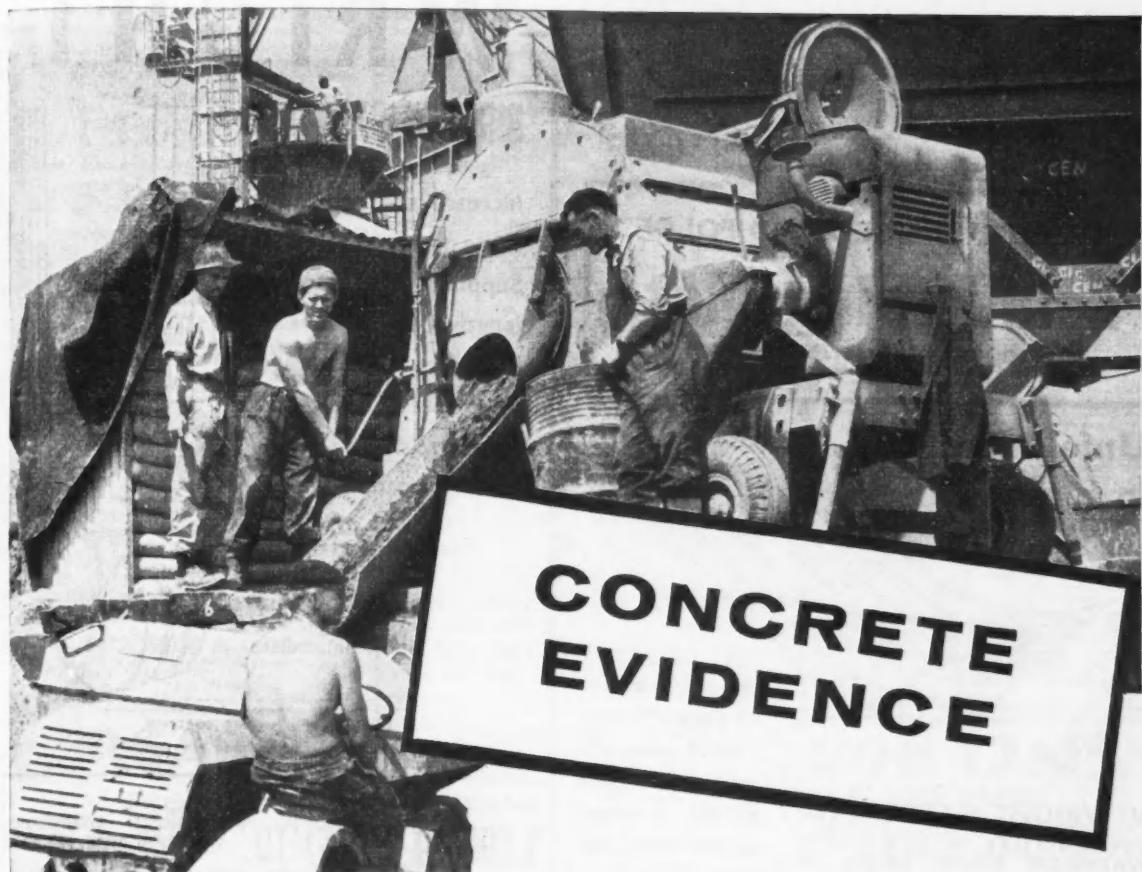
Photograph reproduced by courtesy of S. Mehew, Esq., O.B.E., B.Sc., A.M.Inst.C.E., A.M.T.P.I., County Surveyor of Derbyshire, showing 40'0" beams prestressed, pretensioned, laid for the new bridge on the A.50 at Fostons, Derbyshire.

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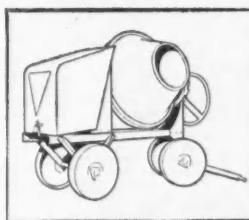


This photograph of an S & P mixer supplied by Balfour, Beatty & Co. Ltd. is reproduced by kind permission of R. A. Lister & Co.

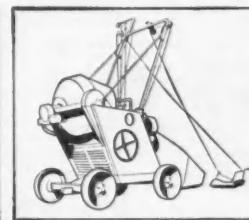
A good mixer is judged by its performance and the Stothert & Pitt 14 NT mixer working at Berkeley power station gives concrete evidence of its worth. It has a mixed batch capacity of 14 cubic feet, a maximum loader hopper capacity of 21 cubic feet, and at thirty batches per hour, it will mix 125 cubic yards of concrete in an 8-hour day.

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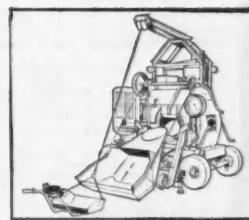
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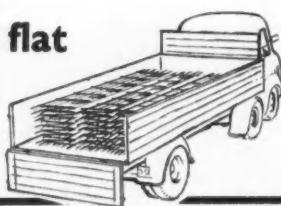
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SP.102

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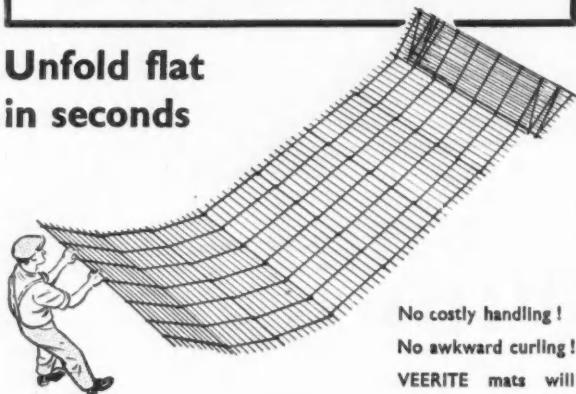


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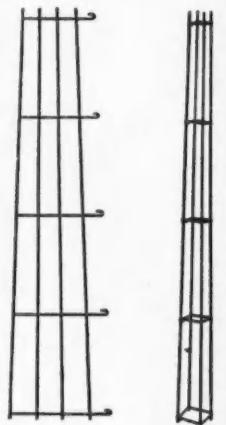
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One "BRISTOL 25" Diesel Tractor. Fitted Hydraulic Angledozer Blade. New 1956. Perkins P.3 Engine. Tracks and Engine overhauled. Machine in excellent condition. Bargain £850

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One JONES KL.53 Mobile Crane. Mounted on pneumatic tyres. Powered by Diesel Engine and fitted with 40ft. Straight Lattice Jib. New 1956 £1,850

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One RANSOMES AND RAPIER 6-ton Petrol Electric Full Circle Slewring Mobile Crane. On good solid rubber-tyred wheels and fitted 20ft. Cantilevered Jib. Ideal, clean Works Crane £850

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PLANT AND MACHINERY WANTED—FOR SALE—FOR HIRE

(Continued from page 870)

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3-yd. Weatherly Hydraulic LOADING SHOVEL.
19RB EXCAVATOR, 10200 Series, Dragline Equipment.
4-in. Johnson Portable Diesel PUMPING SET.
4-in. reconditioned.

16 Spencer-Hopwood BOILERS, fully insured, 120lb.
Ruston Diesel LOCO, 2ft. gauge, 25/30-h.p. Engine.
2-ton Neal N CRANE, 20ft. Jib, Reconditioned
Engine.
Jones KL44 Mobile CRANE, Diesel Engine, 40ft.
Jib.

Two P20 PORTASILO, new 1958 and 1959.

TRENCH SHEETS, 10ft. and 12ft.

Seven McKiernan-Terry PILING HAMMERS, with leg

Larsen and Appleby-Frodingham STEEL SHEET PILES,

1, 2 and 3 Sections.

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1½ cu. yd. and 1 cu. yd. Johnson Diesel DUMPERS.

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2-ton Neal N.M. Mobile CRANE, 30ft. Jib, Ruston Diesel Engine, pneumatics.

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NEW PARKER CONCRETE MIXERS. Mini Giant.

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Little Giant 5/3½ cu. ft., Lister Diesel Engine. Cash price £113 each.

Delivery at once from stock.

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TRACTOR, 7-ton, for HIRE.—HENRY FROUD, LTD.

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Angledozer, P.C.U. 9yd. Onion Scrapers.—B.G. PLANT (SALES AGENCY), LTD., Watlington, Oxon.

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AVAILABLE for use, 300-ton PRESS. We are well

equipped, especially for Lima 1201 work. Heavy Salvage Work and TRANSPORT.

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10RB, 1945, reconditioned throughout and fitted Dragline, £1,000.

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Ransome and Rapier 423 (%), new 1952. Fitted Shovel and Rapier 423 (%), new 1952. Fitted

Shovel, £150 Spares. Little used, £1,400.

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Jones Super 22 MOBILE CRANE, £650.

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43RB F.S. ROCK BUCKETS (Midlands), £250 each.

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ROAD ROLLERS WANTED. 6-8-ton Diesel, by Aveling-Barford and Marshall; also 50 G.W.T. Post-war models preferred.—A. M. COLE, Eastgate, Sleaford, Lincs. Tel: 463.

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Modern Diesel

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Elliott Bros. (Wortley), LTD.
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Smith 3/12, Crane, Blackstone Engine, £400.
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Smith 2/10, 17000 Series, Skimmer/Backacter, £400.
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Ruston 16, Face Shovel, Gardner SLW (electric start), £600.
Ruston 10RB, Dragline, very clean cab, engine poor, Series 3500, £275.
Priestman Wolf, Dorman 4 Engine (electric start), Skimmer, £375.
Priestman Cub, new Dorman Engine (electric), Dragline, high carriage, £400.
All in full working order and subject to test at these works.

EQUIPMENT AND SPARES:
40ft. N.C.H. DRAGLINE, £80.
EXTENSIONS, Sft., 10ft. and 15ft., from £10.
Smith 2/10 DRAGLINE JIB, £90.
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Smith 2/10 BACKACTER BUCKET and Arm, £60.
Smith 2/10 BACKACTER and Skimmer, £75.
Any N.C.H. 150 SPARES whatever.
4-ton Low-load TRAILER, suitable Bristol or Fiat, £95.
3-ton TRAILER, two 900 x 20 tyres and small jockey wheel, electric brakes, suit Jeep, £80.
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One Air Pumps, am Morris lorry, 418 miles, driven through gearbox, 160ft. per min., £120.
Hand-operated GANTRY CRANE, 30ft. track, 20ft. wide, with stanchions, £100.
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10B Muir-Hill DUMPER, reconditioned May, 1960, new tyres, Perkins L4, £375.
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10RB, 7000 Series, fitted Dragline, 3VRO, electric starter, ex Ministry, £800.
10RB, 3000 Series, fitted Dragline, 3VRO, fair condition, £600.
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TRACTORS:
D4 2T, La Plant Choate Angledozer, P.C.U., good order, £950.
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HD5G, 1½yd. Bucket, good order, £1,400.
Caterpillar 955 Tractor Shovel, good order, £3,800.
1959 Drott 4-in-1, Cab well maintained, £2,750.

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5-ton Smith-Rodley Steam Crane, standard gauge, 35ft. Jib, Single Drum, £675.
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WANTED
CRAWLER TRACTORS and Bulldozers, any condition; also Parcels of Spares for same. Prompt cash and collect.
SPARE PARTS available for TD6, 9, 14, 18, Caterpillar D2, D4, Fowler VF, FD3, Ails M and County ROBIN BOSWORTH,
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New Motorised PAYSCRAPERS for immediate HIRE (22 cu. yds).
BT6, TD14 and TD18 TRACTORS, fitted with Drott Skid Shovels.
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10RB, 19RB and 22RB EXCAVATORS, with all Equipments.
First-class machines and operators, backed by honest field service in Great Britain.
Generous transport terms to all parts of England.
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Model 830 DRYER and 848 MIXER.
S/7-10 Coles Self-propelled CRANE.
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EXCAVATORS, BULLDOZERS, 7-ton Diesel ROLLER, 2-ton and 5-ton MOBILE CRANE, MONORAIL TRANSPORTER EQUIPMENT, VIBRATOR ROLLERS, COMPRESSORS, MIXERS, PUMPS, etc.—Plant Dept., WM. TOWNSON AND SONS, LTD., Higher Swan Lane, Bolton. Telephone: Bolton 10140.

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Good Second-hand Smith 21 and Super 10 Diesel-driven Excavators, fitted with front end equipment, General Engines. SALE and HIRE.
Weatherill Diesel-driven Hydraulic LOADING SHOVELS, Type 12H, ¾ cu. yd. capacity, mounted on heavy-duty pneumatic tyres. SALE and HIRE.

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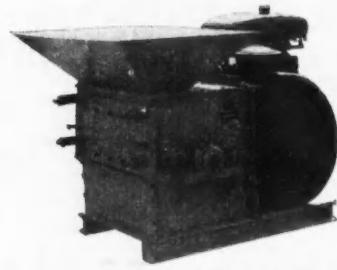
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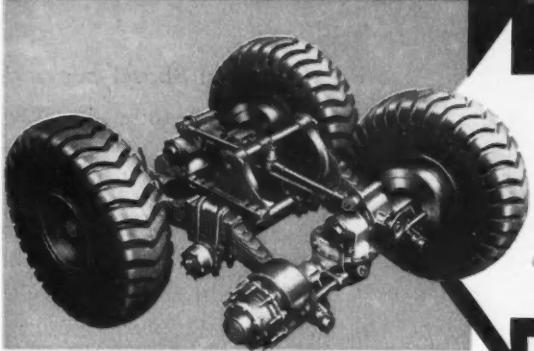
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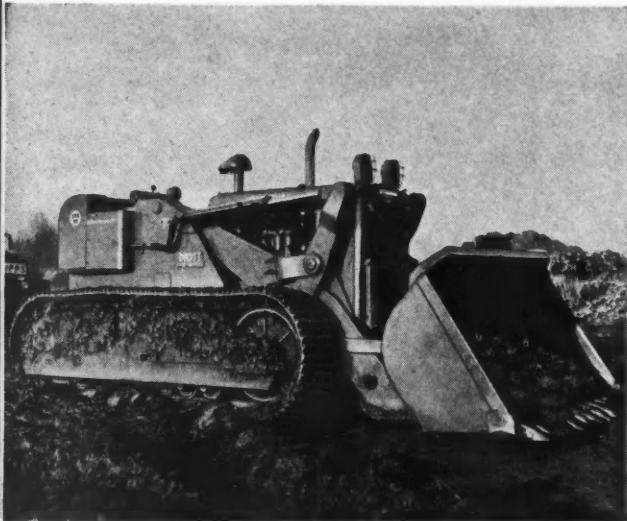




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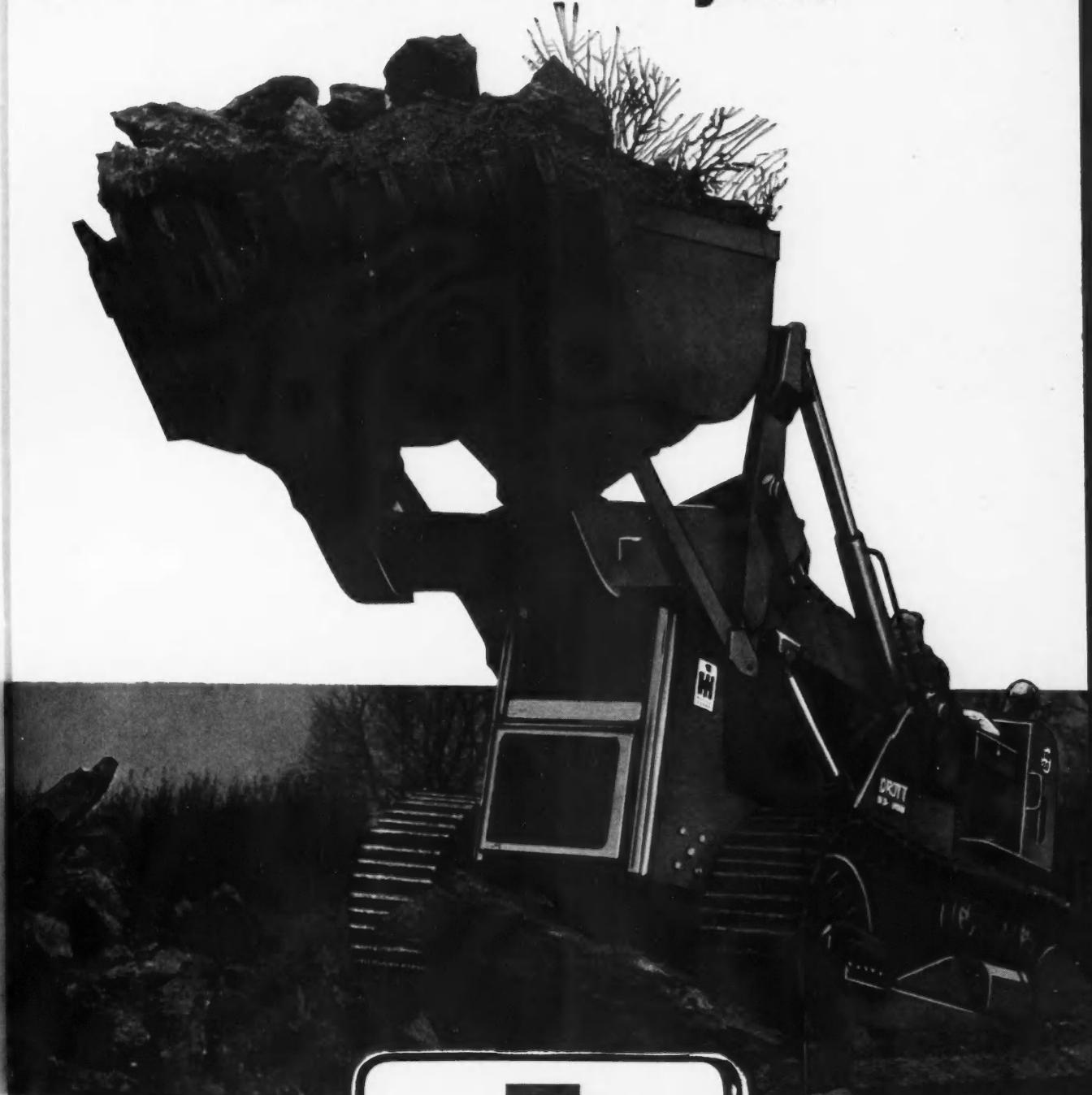
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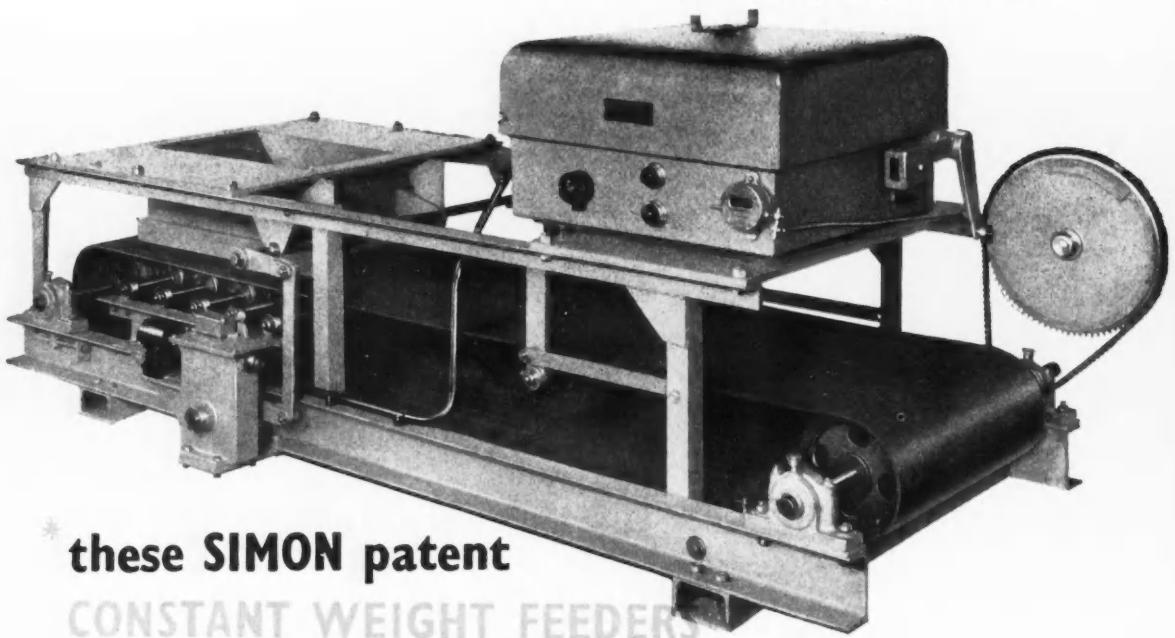
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A view of the site of the Legal and General Assurance Society's office development in Victoria Street, London, S.W.1.

*Right :*

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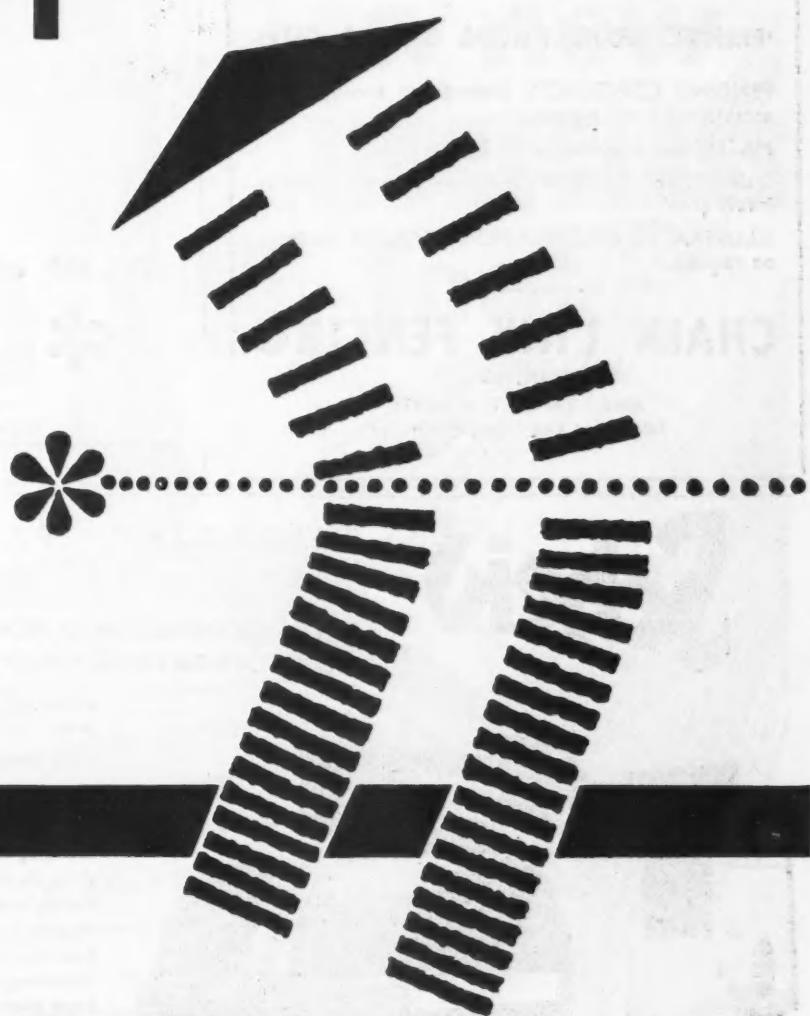
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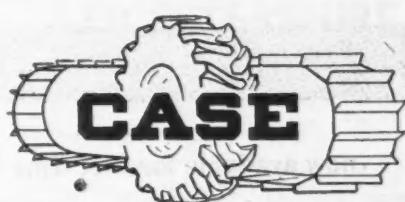


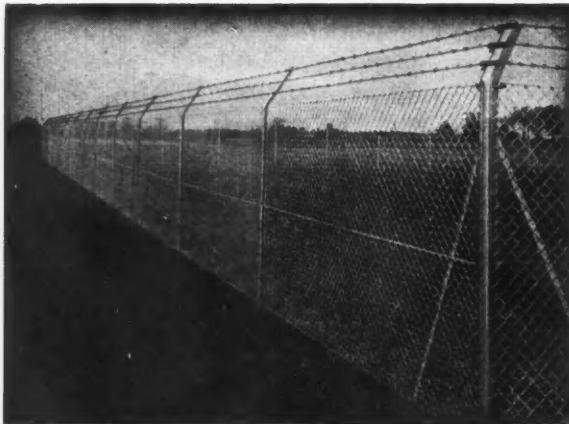
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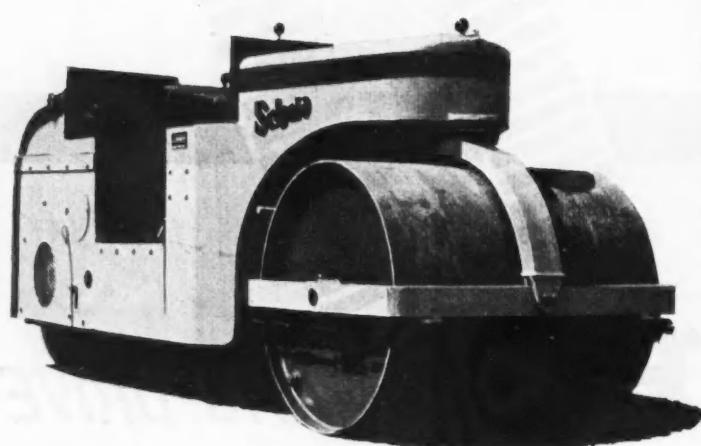
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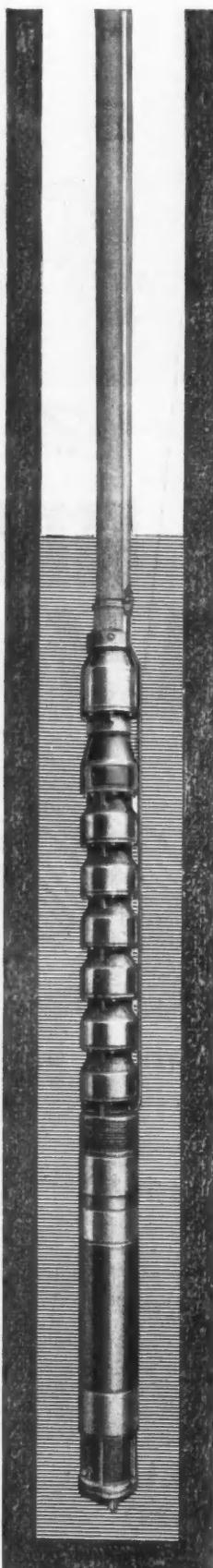
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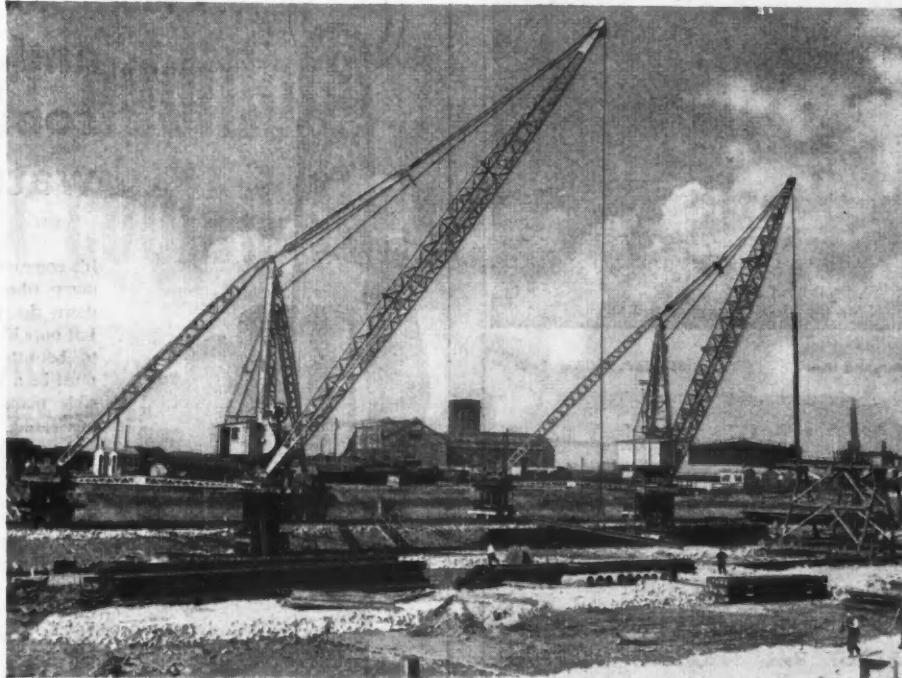
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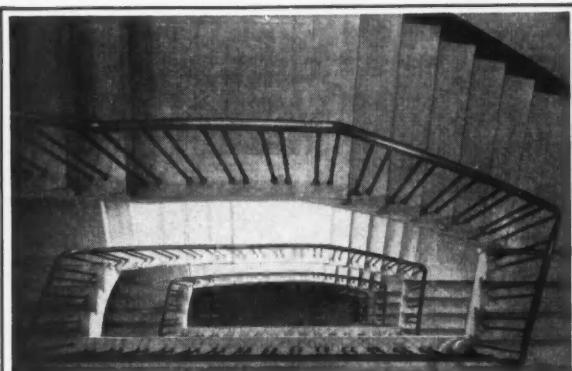
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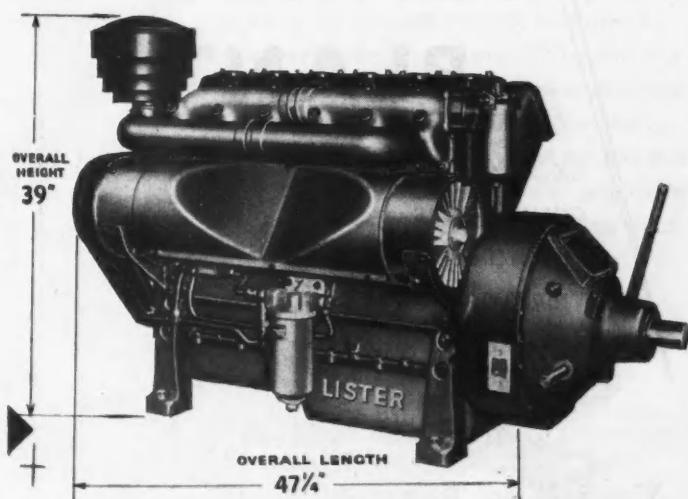
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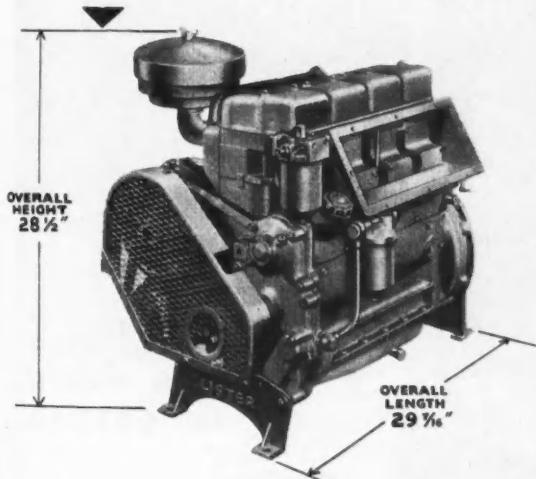
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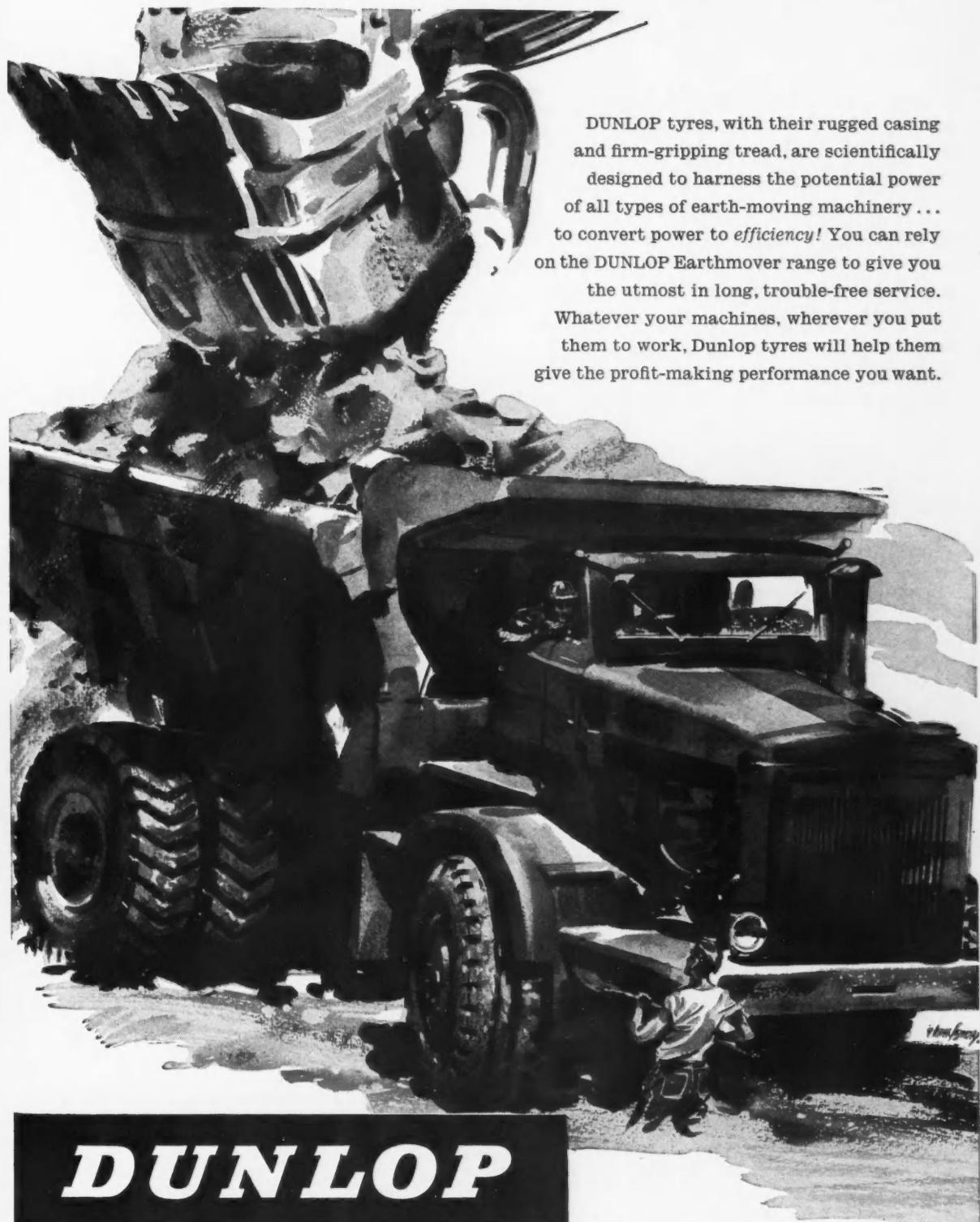
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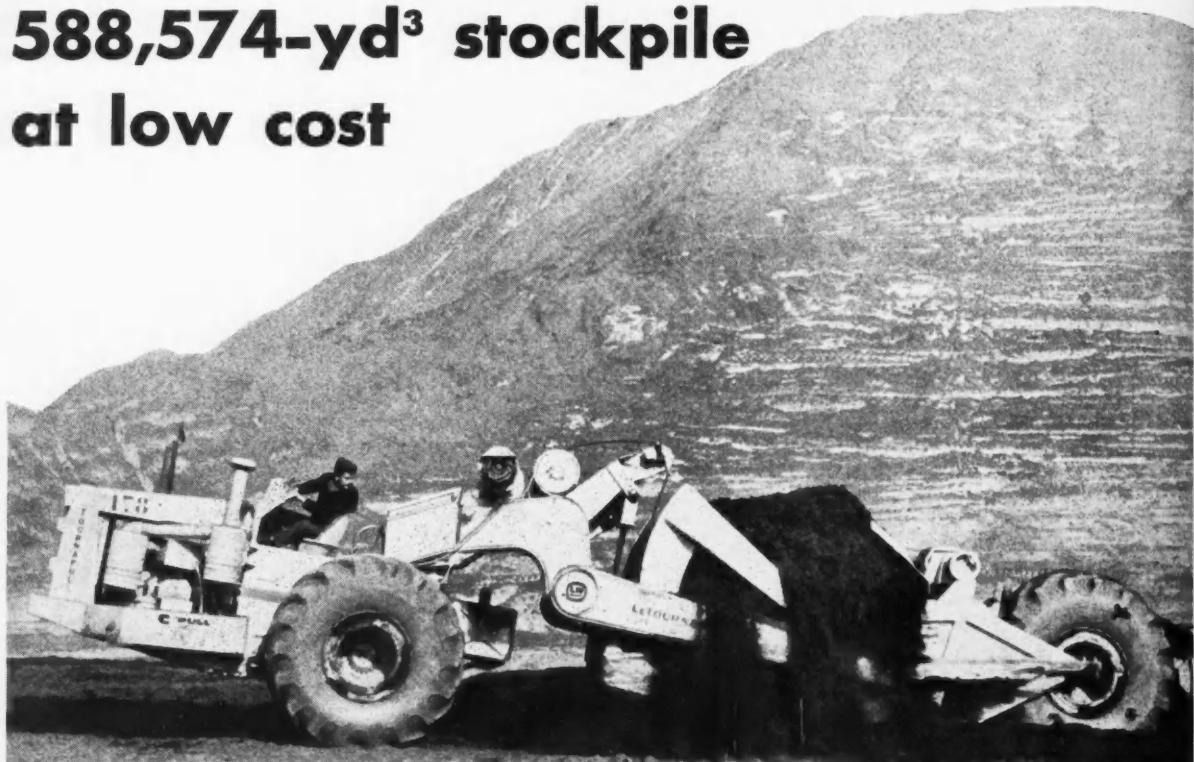
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To move the major share of the hard-to-load material, Mueller Freres used their regular LeTourneau-Westinghouse earthmoving fleet — 3 C Tournapulls with Fullpak scrapers. These LW machines were push-loaded to heaped capacity in an average of 26 seconds. They completed 1700-ft load-haul-return cycles in less than 3 minutes. Fast performance like this helped complete the job a full month ahead of schedule!

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Tournapull, Fullpak—Trademark Reg. U.S. Pat. Off CP-2286-DCJ-1c

Push-loaded in 98 ft, Mueller Freres' C Tournapull gets heaping 18-yd³ load of tightly compacted coal. Fullpak scraper bottom has an angle of only 2° while loading, permits fast, easy entry of material.

Electric-powered C Tournapull makes a tight turn. Fast turns helped reduce cycle time, permitted more trips per hour. Supervisor of material and maintenance for Mueller Freres, M. Layon, says, "I like LW equipment because of its electric-control system and low-maintenance."



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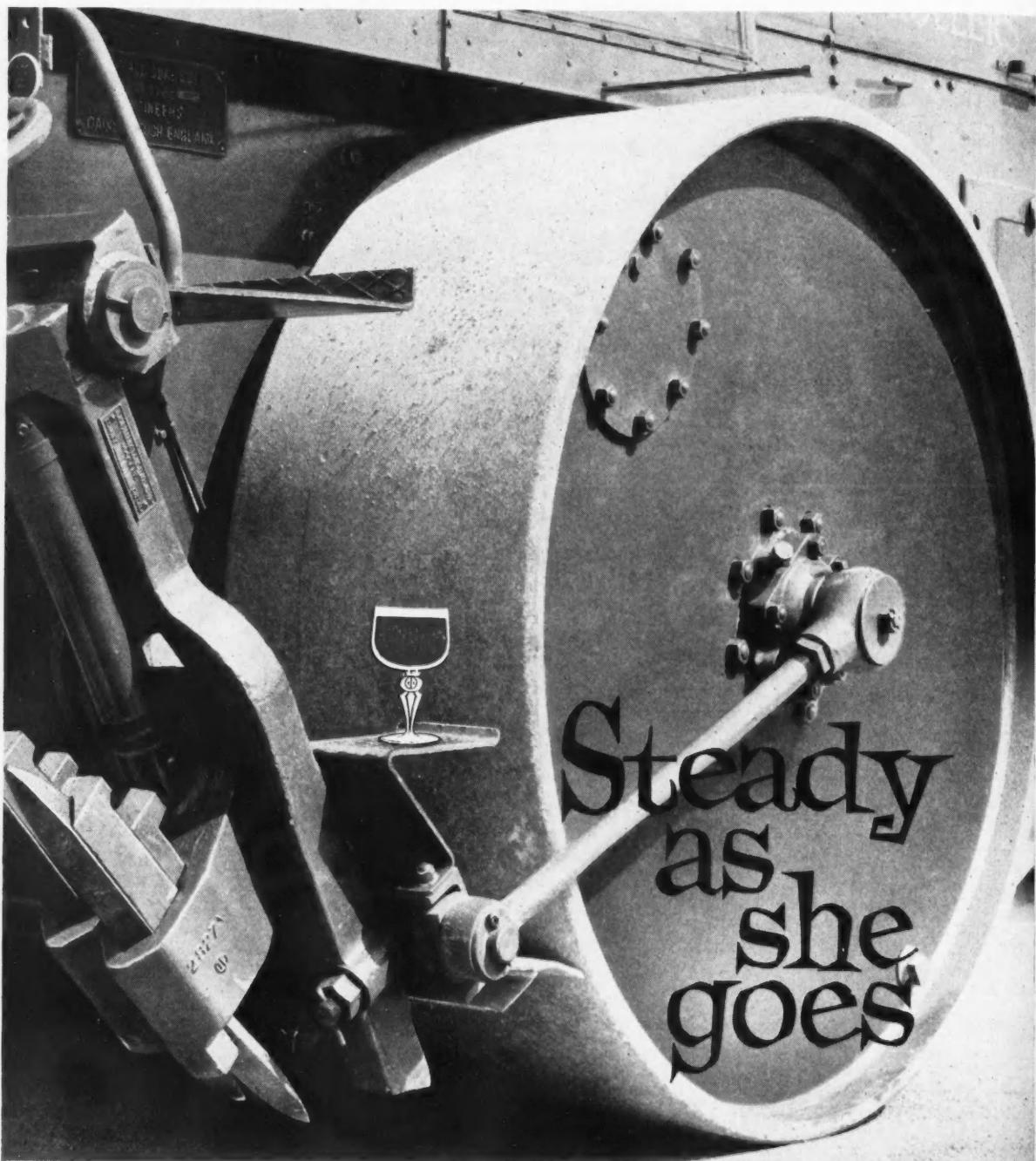
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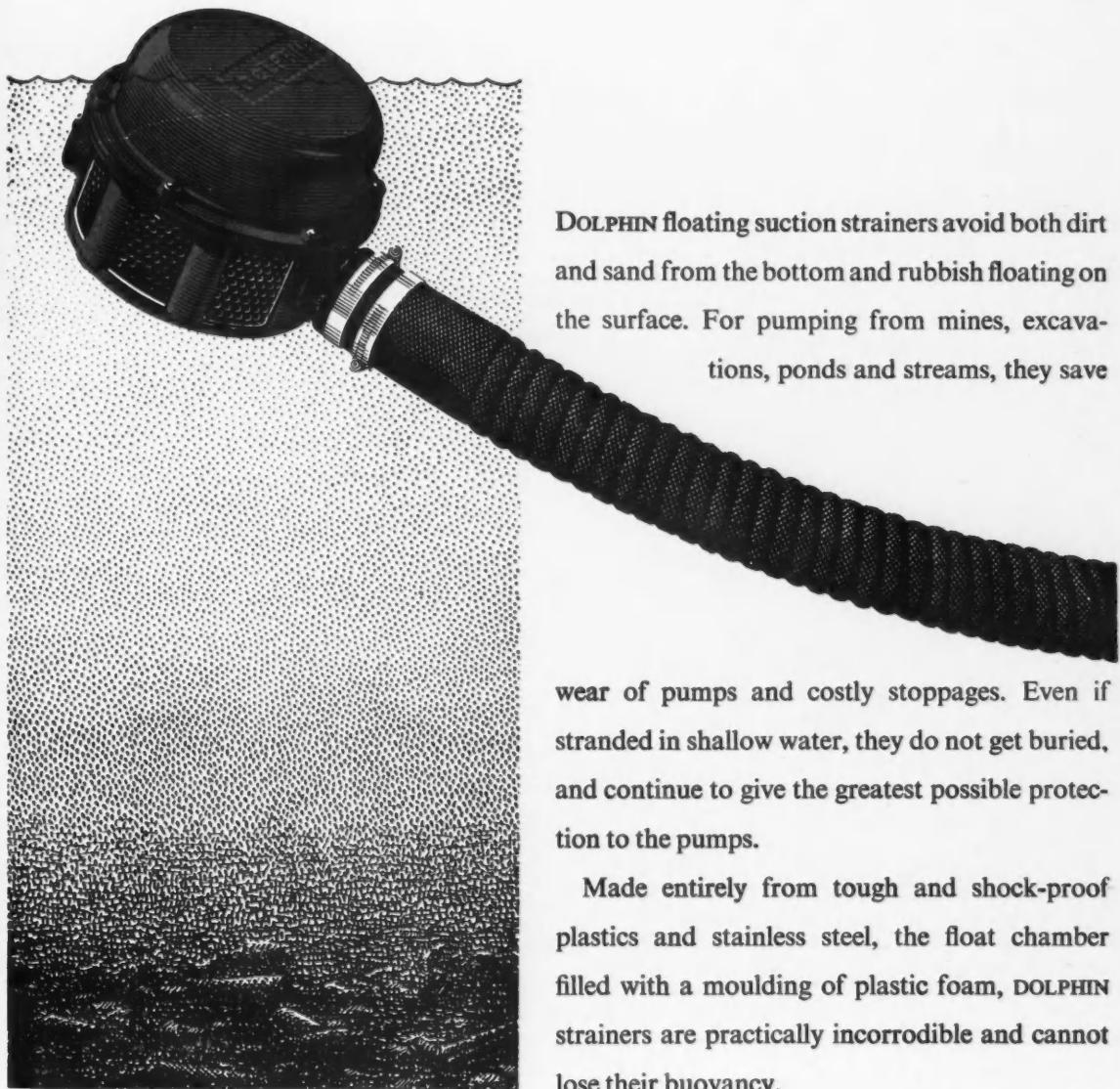
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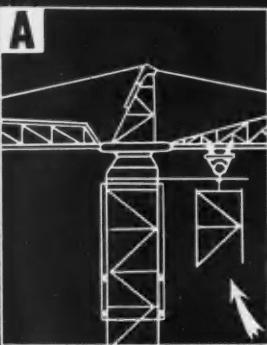
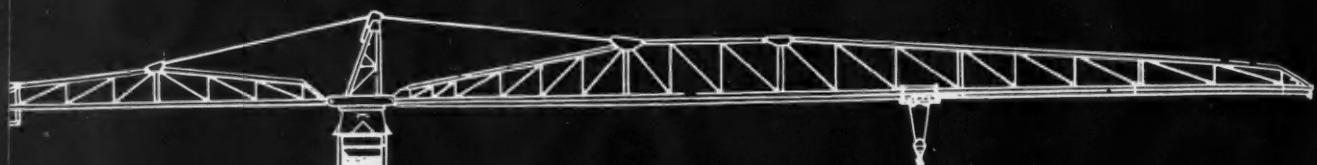
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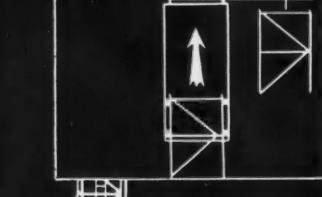
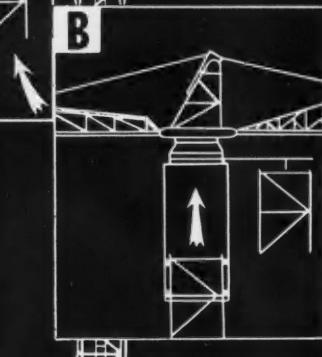


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Maximum jib radius	34 ft.	49 ft.	66 ft.	66 ft.	82 ft.	82 ft.	92 ft.	82 ft.	99 ft.	66 ft.	82 ft.	99 ft.	99 ft.
S.W.L. at maximum radius	8 cwt.	12 cwt.	15 cwt.	20 cwt.	15 cwt.	25 cwt.	20 cwt.	30 cwt.	24 cwt.	60 cwt.	40 cwt.	30 cwt.	80 cwt.
Maximum S.W.L.	½ ton	1½ ton	1½ ton	2 ton	2 ton	3 ton	3 ton	5 ton	3 ton	6 ton	6 ton	6 ton	12 ton
Maximum S.W.L. radius	28 ft.	26 ft.	36 ft.	44 ft.	44 ft.	35 ft.	31 ft.	29 ft.	40 ft.				
Height under hook "free travelling"	31/66 ft.	70 ft.	100 ft.	100 ft.	100 ft.	135 ft.	135 ft.	135 ft.	135 ft.	127 ft.	127 ft.	127 ft.	165 ft.
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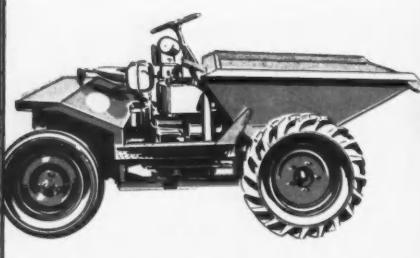
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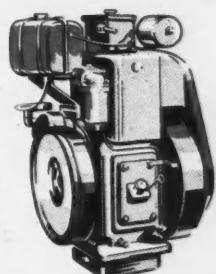
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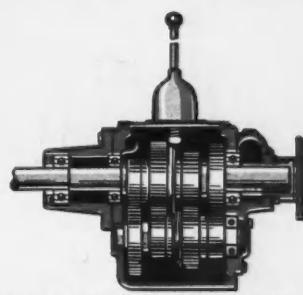
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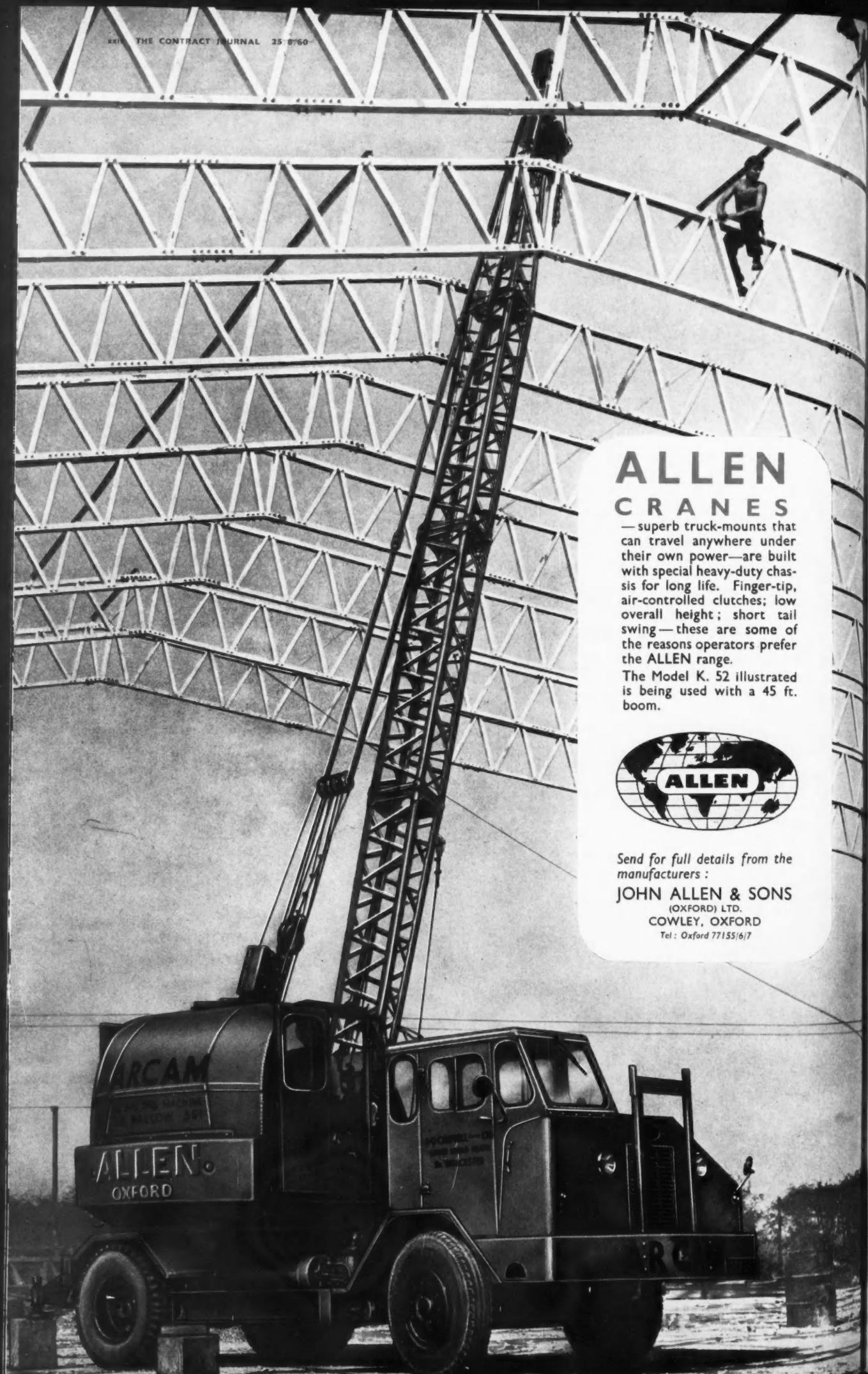
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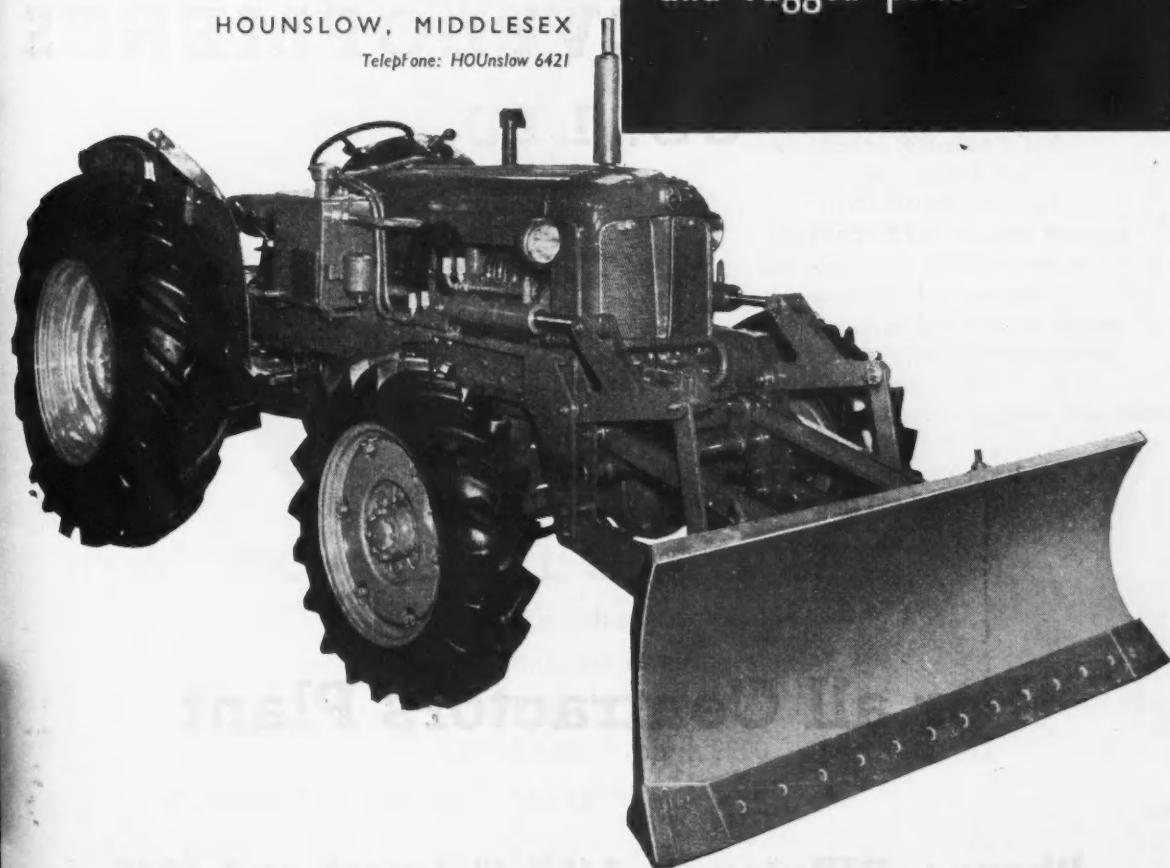
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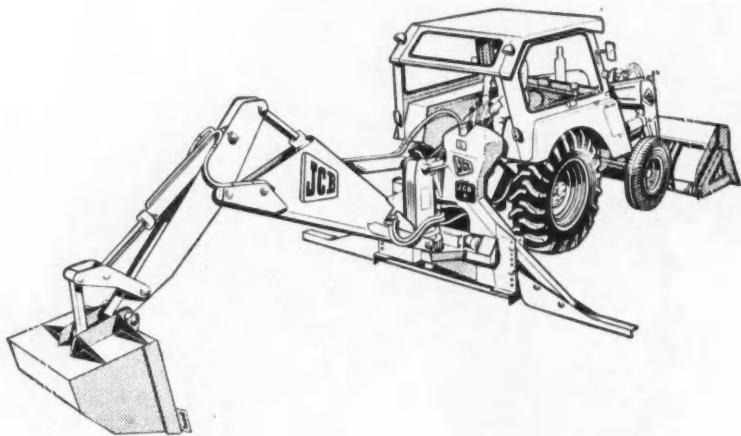
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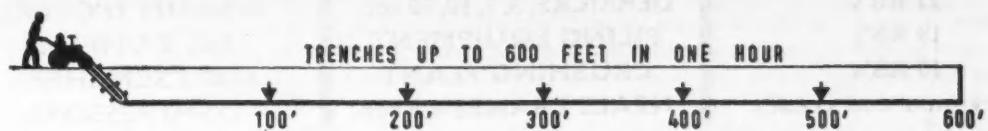
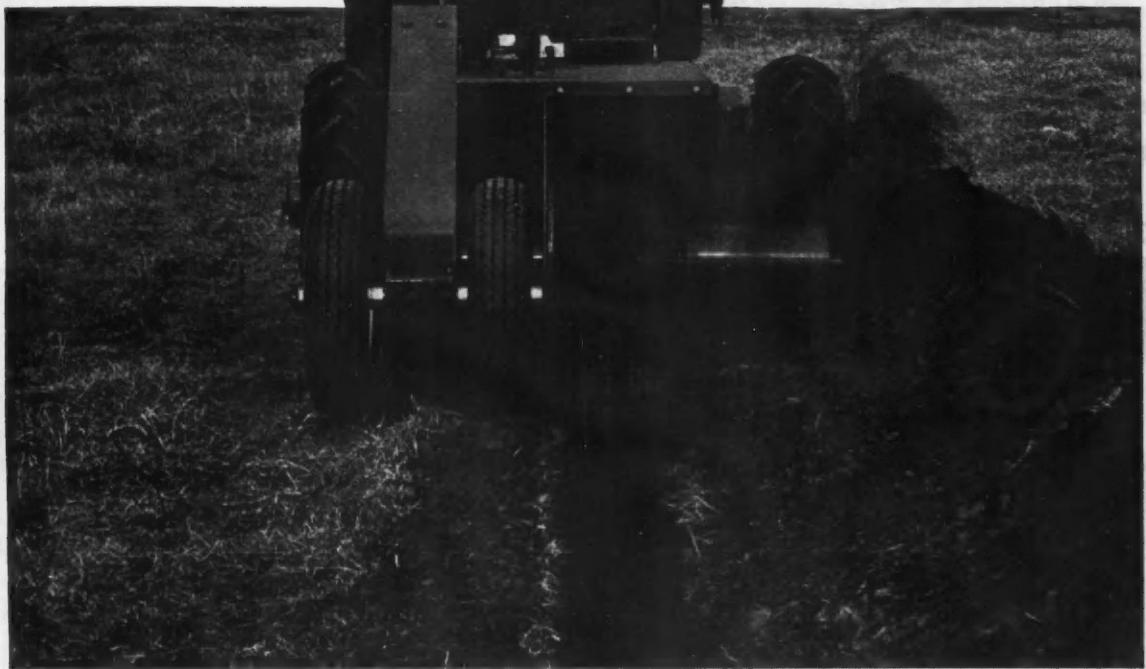


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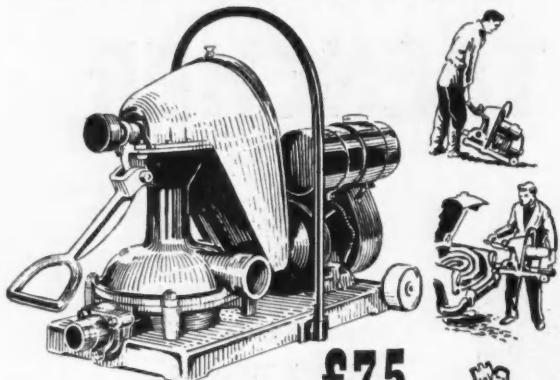
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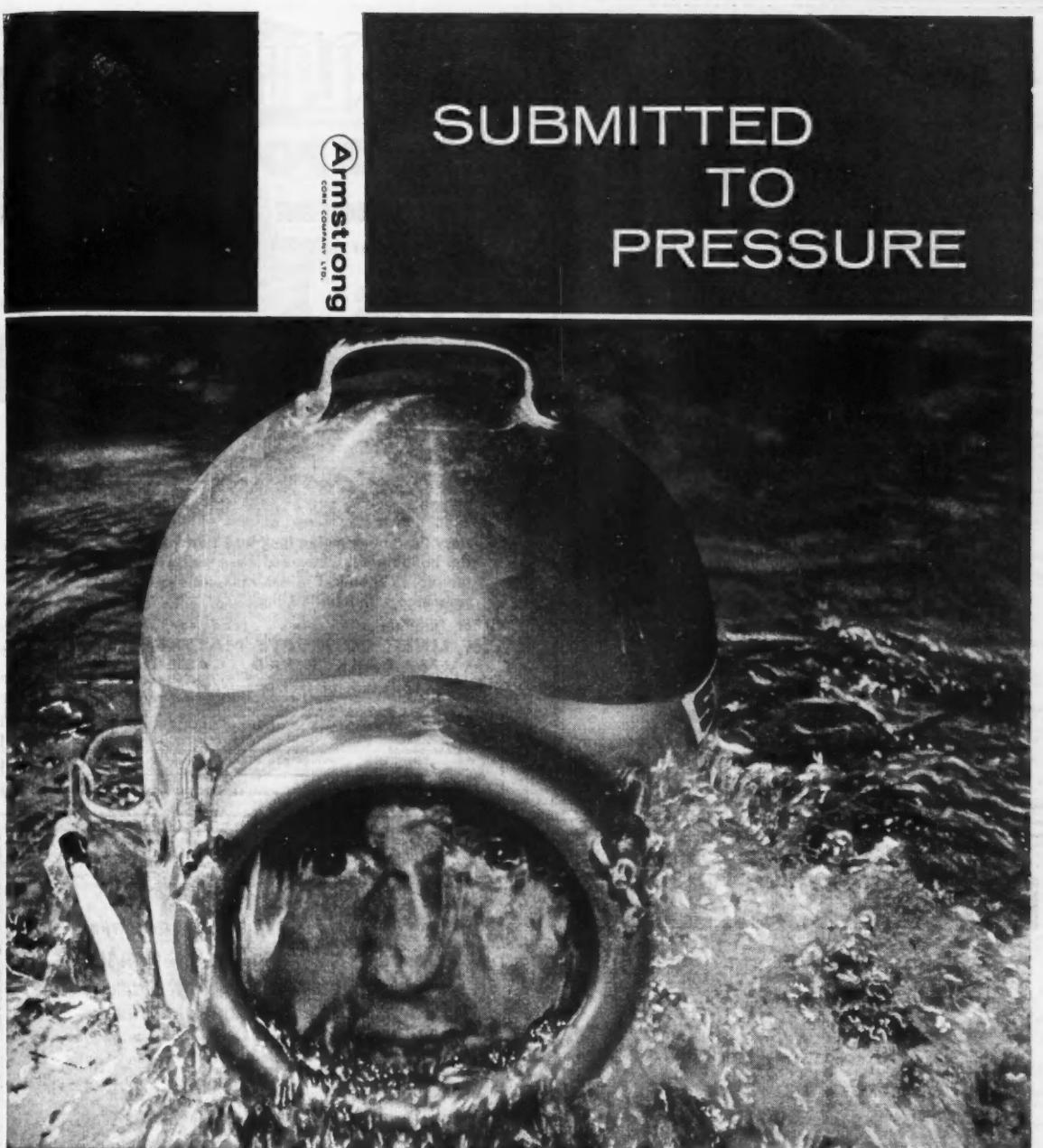
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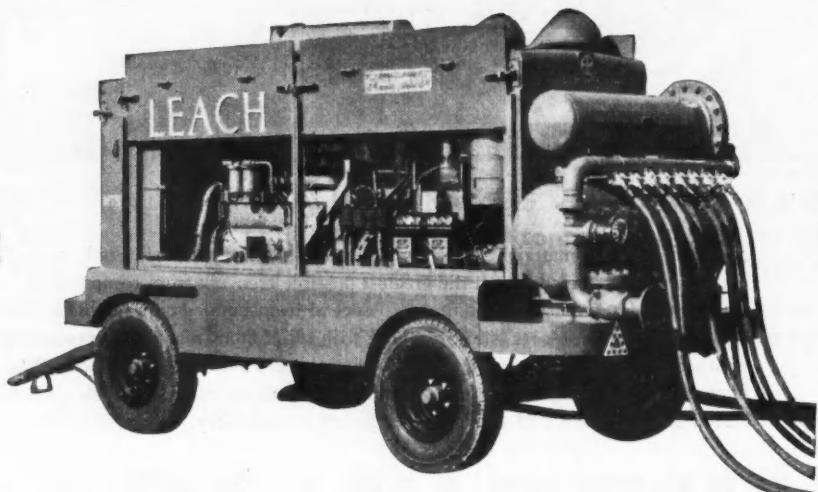
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ASPHALTE CARPETS, LTD., 38 Buckingham Palace Road, London, S.W.1. (Tel.: Tate Gallery 4857 or Gerrards Cross 3496.) Manufacturers of all grades of gravel, cobbles, macadam, gravel asphalt and concrete asphalt. (See Gerrards Cross.)

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

BICESTER STONE CO., LTD., Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 238.) Manufacturers and suppliers of all grades of limestone, travertine, dolomitic stone, hardcore, etc.

COFF, HARRY A., LTD., Burkhurst Hill, Cheapside, Ascot, Berks. (Tel.: Ascot 1026/7.) (See Berkshire.)

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Rd., London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, sets. (See London.)

DRINKWATER, R. W. (WILSDEN), LTD., Rush Green, Denham, Bucks. (Tel.: Denham 2241/2/3.)

GRUNDON, S. (EWELME), LTD., Ewelme, Oxon. (Tel.: Ewelme 20.) London Office (Tel.: Uxbridge 4156.) All grades washed aggregates. Path hoggin, broken stone, building sand.

HAINES, H. (WITNEY), LTD., Oxford Road, Witney. (Tel.: Witney 42.) All grades washed aggregates, hardcore, pitching and broken stone, Cotswold building and walling stone.

HALL AND CO., LTD., Brentford, Middlesex. (Tel.: Iver 446/1.) Sand and Coronalite, Road, High Wycombe. (Tel.: 4360/1) at Gerrards Cross. Pits at: Wraysbury (Middx.), and Iver (Bucks.).

JAMES AND CO., LTD., 2C Buckingham Avenue, Slough. Sand aggregates, hardcore, ashes, bulldozing and bulk excavation. (Tel.: Slough 20361/2/3.)

LONDON BALLAST CO., LTD., (Tel.: Paddington 5064/5.) 55A Porchester Terrace, North Paddington, W.2.

MARLOW SAND AND GRAVEL CO., LTD., Westhorpe Pit, Little Marlow, Bucks. (Tel.: Marlow 379.)

STUART MACEY, LTD., Gordon Road, High Wycombe. (Tel.: High Wycombe 59/2.)

WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel.: 4587/8/9.) (See Bedfordshire.)

CAMBRIDGESHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

Rates for insertion in this GUIDE will be forwarded on application

CAMBRIDGESHIRE

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Rd., London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, sets. (See London.)

DARBY'S SAND AND GRAVEL CO., LTD., The Brook, Sutton, Ely. (Tel.: Sutton 391/3.) All grades of washed sand and gravel, ready-mixed concrete. Pits: Meap and Chippenham.

DICKSONS, M. LTD., Sevenham Comer, Newmarket Road, Cambridge. All grades washed sand and gravel, relect stone, hoggins, clinkers, "Terlite" crushed granite, foamed slag, concrete and brick, hardcore, ready-mixed concrete—all grades. (Tel.: Cambridge 56973/4.)

FRICKENHAM GRAVEL CO., LTD., The Brook, Sutton, Ely. (Tel.: Sutton 391/3.) Washed sand and gravel.

MACLAREN BROS., LTD., gravel, tarred and bituminous, gravel asphalt, washed sand and gravel, to B.S. specifications. Delivered to site. Station Rd., Kennett, Cambs. (Tel.: Kentford 333/4.)

NORTH ROAD GRAVEL WORKS, LTD., The Brook, Sutton, Ely. (Tel.: Sutton 391/3.) All grades washed sand and gravel, ready-mixed concrete and sand. (Tel.: Sutton 391/3.)

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3.) (See Huntingdonshire for details.)

WEBB, G. CAMBRIDGE, 35 Magrath Ave., Cambridge. (Tel.: Cambridge 59966, 53969, 50353 (night).)

Supplies at: Keyston, Great Shelford, Whittlesey, Ouse. All grades washed sand and gravel, relect stone, hoggins, clinkers, ashes, brick rubble, pitching, hardcore and granite chippings. All to B.S. Specifications. Delivered to any site in East Anglia.

WELLFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel.: 4587/8/9.) (See Bedfordshire.)

CARDIGANSHIRE

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

SALOP SAND AND GRAVEL SUPPLY CO., LTD., Amaston, Wellington (Tel.: 961). Salop.

CHESHIRE

BUCKTON QUARRY, broken stone, all grades. (Tel.: Mossley 123.) Or write: Main Road, Oldham.

CASLETON SAND AND GRAVEL QUARRIES, LTD., Cheshire, 3. (Tel.: Deansgate 5455 and 5456.) Quarries at Cheshire, Staffs. (Tel.: Tean 241.) And at Longton, Stoke-on-Trent. (Tel.: Longton 32196.)

CAWOOD, WHARTON AND CO., LTD., Pistyll Gwyn Quarry, Llanarmon, near Mold. (Tel.: Llanarmon-vn-lal 27.) Crushed limestone and sand and macadam, all sizes.

CHESHIRE SAND AND NORTH WALES TARRED MACADAM CO., LTD., Llanarmon, near Mold. (Tel.: Llanarmon-vn-lal 43.) Hard, broken limestone, dry and coated, to B.S.S. Inquiries to registered office—Market Chambers, Tower Square, Tiverton. (Tel.: Stoke-on-Trent. (Tel.: Stoke-on-Trent 88094/.)

CROXDEN GRAVEL LTD., Cheshire, Stoke-on-Trent, Staffs. (Tel.: Tean 393.) Manchester Office: Blackfriars 3766/7. Plant capacity, 2,000 tons per day.

DUNNING AND SON, LTD. (See Shropshire.)

HILTON GRAVEL LTD., Rice Street, Liverpool Road, Manchester, 3. (Tel.: Deansgate 5455 and 5456.) Quarries at Cheshire, Staffs. (Tel.: Tean 241.) And at Longton, Stoke-on-Trent. (Tel.: Longton 32196.)

HULLAND GRAVEL CO., LTD., Cheshire, Stoke-on-Trent, Staffs. (Tel.: Tean 241.) Manchester Office: 464 Wilbraham Road, Chorlton, Manchester, 21. (Tel.: Chorlton 2274/5.)

PENMANA MAWR AND WELSH GRANITE CO., LTD., 7 Picton Road, Liverpool, 15. (Tel.: Sefton Park 7261/.) All sizes and gradings of crushed granite aggregate from our Collingwood Dock (Liverpool) Depot. Any quantity per day; immediate delivery ex stock.

PRESTWICH, WILLIAM, AND SONS, LTD., Dronfield, Derbyshire. (Tel.: 2204—6 lines.) Dry and coated Derbyshire limestone and slag, for all purposes and to all specifications. "Haddon" foamed slag blocks.

TERN HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

BENT-MARSHALL (LEYTON), LTD., 665-667 High Road, Leyton, E.10. (Tel.: Leytonstone 4047/8.) Sand, ballast and concrete hardcore delivered all areas.

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Rd., London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, sets. (See London.)

FERRIS PITS, LTD., The Limes Garage, Feniscleace and Wirksworth, Edale. (Tel.: Hathersage 2-3001/2.) Supplied at Orsett, near Stanford-le-Hope, and Upminster. All grades of washed aggregates, plastering and building sands supplied and delivered, also hardcore and ashes.

HALL AND CO., LTD., Manor Road, Romford. (Tel.: Romford 221/2/3.) Ayley, Boreham and Linford, near Grays. Gravel aggregates, concreting, plastering and building sands.

HUNNABLE, F. A. AND SON, LTD., Rayne Road, Braintree, Essex. (Tel.: Braintree 151 and 1351.) Graded washed stone, "I'm to rejects"; washed gravel and sand; washed soft sand; classified. Classified sand for asphalt. Ready mixed concrete to all grades. Pits at Braintree, Bocking, Beasley End, Hedingham and Alphamstone.

LEIGH BUILDING SUPPLY CO., LTD., Head Office: 9764 London Road, Leek-Side, Essex. (Tel.: 78264—5 lines.) All grades washed materials, building sand, hardcore, ashes, bricks, granite.

PETERS AND BARHAM, LTD., 309 South Street, Romford. (Tel.: Romford 44141—7 lines.) Washed and crushed gravel, all sizes: sand, Pits at Ashdown, Chignall St. Asa, Dagenham, Great Waltham, and Cheshunt, Romford, West Wickwick.

READ, P. T., LTD., Fairlop, Airlie, Forest Road, Ilford. (Tel.: Halnault 6111/2/3.) High-grade sands, ballast and shingles supplied and delivered; also ready-mixed concrete.

ST. IVE'S SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)

STANWAY CONTRACTS, LTD., Upper Edwards Hall, Ea Wood, Southend-on-Sea. (Tel.: Eastwood 55161.) Sand and gravel pits at Rochford and Woodham Ferrers. Local Office: 267 Chelmsford.

WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel.: 4587/8/9.) Washed and graded aggregates. Local Office and pits: Tillington 287.

WIVENHOE SAND, STONE AND GRAVEL CO., LTD., Wivenhoe, near Colchester, Essex. (Tel.: Wivenhoe 231.) High-quality washed aggregates of all grades.

DERBYSHIRE

HILTON GRAVEL, LTD., Hilton, Derby. (Tel.: Eddisbury 422.) Also at Mercaston. (Tel.: Brailsford 316/3.) Pits at Willington. (Tel.: Repton 3215.)

HOVERINGHAM GRAVEL CO., LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—13 lines.) (For details, see Nottinghamshire.)

HULLAND GRAVEL CO., LTD., Cheshire, Stoke-on-Trent. (Tel.: Cheshire 2323/4, 2119 and 2195.) Manchester Office: 164 Wilbraham Road, Chorlton, Manchester, 21. (Tel.: Chorlton 2274/5.)

PRESTWICH, WILLIAM, AND SONS, LTD., Dronfield, Derbyshire. (Tel.: 2204—6 lines.) Dry and coated Derbyshire limestone and slag, for all purposes and to all specifications. "Haddon" foamed slag blocks.

SALSBURY AND WOOD, LTD., Matlock (Tel.: Matlock 2233.) Lime, sand and gravel, or crushed gravel and sand; kerbs, slabs, blocks, posts, reconstructed and natural stone; lime and ground limestone. Lightweight aggregates, ashes, red shale.

DORSET

BULL BROS., S. AND CO., LTD., 126A High Street, Winchester (Tel.: 2264). (See Hampshire.)

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, sets. (See London.)

DORSET LIMESTONES, LTD., Bumbers Lane, Easton, Portland, Dorset. (Tel.: Portland 2207/8.) Tarred and bituminous macadam, foundation materials, limestone for all purposes and to all gradings. Portland stone quarried and Portland sandstone aggregates for reconstructed stone. By road and sea.

GILSON, S. C. AND SONS, LTD., Holcombe, near Bath. (Tel.: Stratton-on-the-Fosse 243.)

HALL AND CO., LTD., 8 Commercial Road, Parkstone (Tel.: 5379.)

MOREYS (VERWOOD), LTD., Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggins, path gravel.

DURHAM

BRAITHWAITE, A., AND CO., LTD., Knaresborough, Yorks. Quarry at Catterick. (Tel.: Old Catt. 157.) (For details see Yorkshire.)

ESSEX

BAKER, F. AND E., LTD., 73 High Road, Rayleigh, Essex. (Tel.: Rayleigh 1031/2.) Pits at Great Totham, Heybridge and West Tilbury. All grades of washed material supplied and delivered; also hardcore, ash and bricks.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

BENT-MARSHALL (LEYTON), LTD., 665-667 High Road, Leyton, E.10. (Tel.: Leytonstone 4047/8.) Sand, ballast and concrete hardcore delivered all areas.

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Rd., London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, sets. (See London.)

FERRIS PITS, LTD., The Limes Garage, Feniscleace and Wirksworth, Edale. (Tel.: Hathersage 2-3001/2.) Supplied at Orsett, near Stanford-le-Hope, and Upminster. All grades of washed aggregates, plastering and building sands supplied and delivered; also hardcore and ashes.

HALL AND CO., LTD., Manor Road, Romford. (Tel.: Romford 221/2/3.) Ayley, Boreham and Linford, near Grays. Gravel aggregates, concreting, plastering and building sands.

HUNNABLE, F. A. AND SON, LTD., Rayne Road, Braintree, Essex. (Tel.: Braintree 151 and 1351.) Graded washed stone, "I'm to rejects"; washed gravel and sand; washed soft sand; classified. Classified sand for asphalt. Ready mixed concrete to all grades. Pits at Braintree, Bocking, Beasley End, Hedingham and Alphamstone.

LEIGH BUILDING SUPPLY CO., LTD., Head Office: 9764 London Road, Leek-Side, Essex. (Tel.: 78264—5 lines.) All grades washed materials, building sand, hardcore, ashes, bricks, granite.

PETERS AND BARHAM, LTD., 309 South Street, Romford. (Tel.: Romford 44141—7 lines.) Washed and crushed gravel, all sizes: sand, Pits at Ashdown, Chignall St. Asa, Dagenham, Great Waltham, and Cheshunt, Romford, West Wickwick.

READ, P. T., LTD., Fairlop, Airlie, Forest Road, Ilford. (Tel.: Halnault 6111/2/3.) High-grade sands, ballast and shingles supplied and delivered; also ready-mixed concrete.

ST. IVE'S SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)

STANWAY CONTRACTS, LTD., Upper Edwards Hall, Ea Wood, Southend-on-Sea. (Tel.: Eastwood 55161.) Sand and gravel pits at Rochford and Woodham Ferrers. Local Office: 267 Chelmsford.

WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel.: 4587/8/9.) Washed and graded aggregates. Local Office and pits: Tillington 287.

WIVENHOE SAND, STONE AND GRAVEL CO., LTD., Wivenhoe, near Colchester, Essex. (Tel.: Wivenhoe 231.) High-quality washed aggregates of all grades.

GOUCESTERSHIRE

AMEY'S AGGREGATES, LTD., Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421—10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon. (Tel.: Sutton Courtenay 275.) Theale, near Reading. (Tel.: Theale 358.) Dorchester, Oxon. (Tel.: Clifton Hampden 236.) Billing, Northerton. (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.

BENGRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 3014/.) (See details under Herefordshire.)

COKE, T. AND TURNER, LTD., 267 Gloucester Road, Cheltenham. (Tel.: Cheltenham 4717/4874.) Sand, graded gravel aggregates, hardcore, limestone, chippings, tar paving, bituminous macadam and cold asphalt to B.S.S. for hand or machine laying.

FLOYD AGAR AND CO., LTD., Sherston, Malmesbury, Wilts. (Tel.: Sherston 237.) Cotswold building sand, hardcore, etc. (Details under Wiltshire.)

GRIFFITHS, A. AND SONS, Churchdown, Gloucester. (Tel.: Churchdown 3135 and 2216.) Pit, quarry and dredger owners. All grades and types aggregate materials.

CONTRACTORS' GUIDE TO AGGREGATES

GLoucestershire

HALL AND CO., LTD., Longmoor House, Ashton Vale Road, Bristol, 3. (Tel.: 65011.) Gravel aggregates, concreting, plastering and building sand.

POOLE (LECHLADE), LTD., Gravel Pit, Burford Road, Lechlade, Glos. (Tel.: Lechlade 219.)

TAYMAC, LTD., Wootton Bassett, Swindon. (Tel.: Wootton Bassett 2105/6.) (See Gloucestershire.)

WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Coleford, Glos. (Tel.: Coleford 3158/9.) Tarred and bituminous limestone macadams, asphalt, concrete aggregates, dolomitic media, engineering, facing and common bricks for all purposes. Delivery road or rail.

Hampshire

AMEY'S AGGREGATES, LTD., Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421-10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtney, near Abingdon, Reading. (Tel.: Theale 2451.) Theale, Newbury, Reading. (Tel.: Theale 2451.) Dorchester, Oxon. (Tel.: Clifton Hampden 236.) Billing, Northampton. (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Coalville, Tel.: Coalville 1226/7/8; or London: Vigilant 2530. (For details, see Leics.)

BULL BROS. S. AND L. LTD., 126A High Street, Winchester. (Tel.: 2264.) Concreting aggregates (reconstituted), pit-mixed, weightbatched to meet any specification; also hoggins, path gravel and sand from own pits at Hawley, Lockerley, Ringwood, Romsey, Swan and Totton.

DANGERFIELD, F. J., AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) Filled road aggregates, tarmac, ballast.

GILSON, S. C. AND SONS, LTD., Holcombe, near Bath. (Tel.: Stratton-on-the-Fosse 243.)

HALL AND CO., LTD., Baltic Wharf, Marine Parade Southampton (Tel.: Southampton 21234), and at Portsmouth. Pits at Ringwood, Bbridge and Totland. Gravel aggregate, concreting, plastering and building sand and building sand.

HASKINS, G. AND SONS, Queen Street, Emsworth. For washed sands and graded aggregates, path and road gravels, hoggins, cinder, ashes. (Tel.: Emsworth 209.)

MOREYS (VERWOOD), LTD., Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggins, path gravel.

NEW MILTON SAND AND BALLAST CO., LTD., Lymington Road, New Milton. (Pants. (Tel.: 37 and 565.) Guaranteed uncrushed, washed, screened and graded concrete aggregates. All sizes. Washed sharp and fine sands.

PETERSFIELD ENGINEERING AND CONCRETE PRODUCTS, LTD., Buriton, nr Petersfield, Hants. (Tel.: Petersfield 209.) Concrete aggregates, washed and graded filter media.

PRIVETT, W. G., AND SONS, LTD., Drayton Lane, Portsmouth. (Tel.: Cosham 70059.) Concrete aggregates, building sand, hoggins, ashes, washed and graded filter media.

RALPH OF BASINGSTOKE, LTD., 37 Kempstoke Lane, Basingstoke, Hants. (Tel.: 851.) Concrete aggregates, building sand, path gravel, hoggins, etc.

WESEX SAND AND GRAVEL CO., LTD., 126 Hillside Avenue, Southampton. (Tel.: 56616.) Pits at Rowney and Farleigh. Concrete aggregates, hoggins, building sand, etc.

WRAYSBURY SAND AND GRAVEL CO., LTD., Station Road, Wraysbury, Berks. (Tel.: Theale 373.)

Herefordshire

BENRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 3014.) Suppliers of all grades of crushed concrete aggregates, road metallising, pitching stone, hardcore and coated macadam.

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) All grades of limestone and bituminous macadam, roadstone, chipping and concrete aggregates, etc.

OLD RADNOR TRADING CO., LTD., Kington. (Tel.: 11.) Granite and limestone aggregates, coated macadam, concrete products.

SALON SAND AND GRAVEL SUPPLY CO., Admaston, Wellington. (Tel.: 2011.) (See Shropshire.)

WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Coleford, Glos. (Tel.: 3158/9.) (See Gloucestershire.)

Hertfordshire

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)

DANGERFIELD, F. J., AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

EASTWOODS SALES, LTD., Eastwood House, City Road, E.C.1. (Tel.: Clerkenwell 2040.) Bourboune pit. (Tel.: Hoddesdon 2456.) Producers and distributors of all grades of washed aggregates.

GABRIEL, C. LTD., 100 High Street, Enfield, Middx. (Tel.: Howard 4351/2/3.) Washed aggregates and building sand. Pits at Hertford and Enfield.

HALL AND CO., LTD., Railway Yard, Orchard Road, Stevenage. (Tel.: 775.) and at Hatfield. Gravel aggregates, concreting, plastering and building sand.

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)

WEBB, G. CAMBRIDGE, 35 Magrath Ave., Cambridge. (Tel.: 59966, 53969, 50353 (night).) (See Cambs.)

WINFIELD, HENRY, LTD., Fix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamsted 108/9.) Pits at Hemel Hempstead, Watford, West Hyde, Rickmansworth. Concrete aggregates, hoggins, building sand.

Huntingdonshire

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)

FERRERSANDS AGGREGATES, LTD., Northampton Road Quarries, Rushden (2354/5). (See Northants.)

GRAVEL PRODUCTS (HUNTS.), LTD., St. Neots, Hunts. (Tel.: St. Neots 123.) Pits at Little Paxton, St. Neots. (Tel.: St. Neots 308.) Deliveries in Beds, Hunts and South Cambs.

NENE BARGE AND LIGHTER CO., LTD., Market Chambers, Peterborough (Tel. 5534/5), and Ship End Quarries, Winsford, near Peterborough (Tel.: Winsford 584/5). Roadstone, hardcore, broken stone, ballast, ashes, silica clay and sand.

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) Producers of all grades of washed sand and gravel. Ready mixed concrete. Precast concrete of every description.

Huntingdonshire

WEBB, G. CAMBRIDGE, 35 Magrath Ave., Cambridge. (Tel.: 59966, 53969, 50353 (night).) (See Cambs.)

WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel.: 4587/8/9.) (See Bedfordshire.)

Kent

BRASSTED SAND PITS, Brasstet, Kent. (Tel.: 586.) London office: 10A Ellery Street, S.E.15. (Tel.: New Cross 3337.) Soft and plastering sands, lime and sand-mix dry, hardcore, S.H. bricks, ash, etc.

BROWN, BROS. (SITTINGBOURNE), LTD., Chalkwell Road, Sittingbourne, Kent. (Tel.: Sittingbourne 330.) Sand, ballast, shingle, hardcore, clinker, breeze blocks, etc.

CLUBB, J. LTD., Dartford, Kent. (Tel.: Dartford 25431.) Pits in North Kent, Medway and Sevenoaks district. All washed and crushed gravel and aggregate, concreting and building sand.

DIAMOND TREAD CO., LTD., Ditton Court Quarry, Larkfield, near Maidstone. (Tel.: West Malling 3444.) Quarry owners: tarmacadam, bituminous macadam and dry road stone manufacturers and suppliers. Head Office: 21-22 Old Bailey, London, E.C.4. (Tel.: City 7001-10 lines.)

DIAMOND TREAD CO. (CHALKE), LTD., Chalke, Wiltshire. Quarries: Little Chalke, Ashford, Kent. Quarry owners: tarmacadam, bituminous macadam and dry roadstone suppliers. All inquiries to Area Office: Ditton Court Quarry, Larkfield, near Maidstone, Kent. (Tel.: W. Malling 3444.)

HALL AND CO., LTD., Canning Street, Maidstone. (Tel.: Maidstone 51051); and at Folkestone and Hayes. Pits at Lympne, near Folkestone and Hayes. Washed and graded aggregates, sand, concrete, concreting, plastering and building sand. Surecrete precision-mixed concrete.

HARRIS, M. P. AND CO., LTD., Station Road, Paddock Wood, Kent. (Tel.: 385.) (See Sussex.)

TILBURY CONTRACTING AND DREDGING CO., LTD., Postley, Maidstone. (Tel.: Maidstone 55401/2/3.) Suppliers of tarred, bituminous and dry Kentish ragstone, sea walling, asphalt fillers, Scott granite and kerbing.

Lancashire

BROOMBY'S, LTD., Sandside, Milnthorpe (Tel. 3251/2). Westmorland. (See Westmorland.)

BUCKTON QUARRY, Broken stone, all grades. (Tel.: Mossley 123.) Or write Main Road, Oldham.

CASTLETON SAND AND GRAVEL QUARRIES, LTD., Traws Lane, Castleton, nr. Rochdale. (Tel.: Castleton 57100.) Quarries: Bacup. (Tel.: Bacup 287.) Washed pit sand, crushed washed stone aggregates, pitching stone.

CROXDEN GRAVEL, LTD., Chedde, Stoke-on-Trent. Staffs. (Tel.: Tean 393.) Manchester Office: Blackfriars 3766/7. Plant capacity, 2,000 tons per day.

DUNNING AND SON, LTD., (See Shropshire.)

HARVEY, JOHN W. LTD., Lundfield Quarry, Carnforth, Lancs. (Tel.: Carnforth 100.) Large producers of highest quality washed sands, clean washed natural pebbles and crushed gravel aggregates for all construction purposes.

HILTON GRAVEL, LTD., Rice Street, Liverpool Road, Manchester, 3. (Tel.: Deansgate 5455 and 5456.) Quarries at Headingley, Staffs. (Tel.: 2411 and 2412.) London, Stoke-on-Trent. (Tel.: Longton 32196.)

HULLAND GRAVEL CO., LTD., Chedde, Stoke-on-Trent. (Tel.: Chedde 2323/4, 2119 and 2195.) Manchester Office: 464 Wilbraham Road, Chorlton, Manchester, 21. (Tel.: Chorlton 2274/5.)

PENMAENMAWR AND WELSH GRANITE CO., LTD., all sizes and gradings of crushed granite aggregate. Immediate delivery ex stock.

LIVERPOOL AND PRESTON DEPOTS: Office 2, Picton Road, Liverpool, 15. (Tel.: Sefton 7261.) Manchester Depot:

OFFICE: Cornbrook Road, Manchester, 15. (Tel.: Trafford Park 3830.)

ROUND-O QUARRIES, LTD., Helsby Street, Warrington. (Tel.: 35451—4 lines.) Building and concrete sand and shale.

TERN HILL SAND AND GRAVEL CO., LTD., Almington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

TRENTHAM GRAVEL CO., LTD., Lordship Quarries, Willoughby, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice-washed sharp concreting sand. Plastering sand. Plant capacity: 2,000 tons per day.

WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford (Tel.: 4587/8/9.) Local Offices and pits: Chorley 3923 and Wigton 82039.

WITHERS LIMESTONE, LTD., Black Lane Quarry, Carnforth. (Tel.: Carnforth 327.) Graded limestone aggregate to B.S.S. all sizes. Immediate delivery ex stock.

X.L. GRANITE (INGLETON), LTD., Head Office: Clapham, via Lancaster. (Tel.: Clapham 231.) Works Tel.: Ingleton 231. All sizes and gradings of Ingleton granite aggregate.

Leicestershire

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicestershire. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)

ENDERBY AND STONEY STANTON GRANITE CO., LTD., 21 New Walk, Leicester. (Tel.: 56682.) Quarries at Enderby, London Offices: 29 Dorset Square, N.W.1. (Tel.: Amb. 141.)

GRANGE HILL GRANITE CO., LTD., Markheld, near Leicester. (Tel.: Markheld 561/2/3.) Granite aggregates to B.S.S. All sizes. Tarred and bituminous granite, concrete slabs and kerbs. Transit-mixed concrete.

DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) (See Northamptonshire.)

ENDERBY AND STONEY STANTON GRANITE CO., LTD., 21 New Walk, Leicester. (Tel.: 56682.) Quarries at Enderby, London Offices: 29 Dorset Square, N.W.1. (Tel.: Amb. 141.)

GRAVEL HILL SAND QUARRIES, LTD., Prior Park, Ashby-de-la-Zouch. (Tel.: Ashby 79.) Works: Hartshorne, Derby. Yellow screened plastering and building sand, all to B.S.S.

HILTON GRAVEL, LTD., Hemington Fields, near Shardlow, Derby. (Tel.: Shardlow 266.)

HOVERINGHAM GRAVEL CO., LTD., Hoveringham, Nottingham. (Tel.: Lowdham 717-15 lines.) (For details, see Nottinghamshire.)

Leicestershire

OUNTSORREL GRANITE CO., LTD., 21 New Walk, Leicestershire. (Tel.: 56852.) Quarries at Mountsorrel, near Loughborough. (In pink granite a speciality.) London Office: 29 Dorset Sq., N.W.1. (Amb. 1141.)

WANLIP GRAVELS, LTD., Wanlip Road, Syston, Leicester. Any size or grading, scientifically balanced ballast. All to B.S.S. (Tel.: Syston 2327 and 2797.)

WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford (Tel.: 4587/8/9.) (See Northamptonshire.)

WRAKE VALLEY GRAVELS CO., LTD., Melton Mowbray. (Tel.: Pits—Rotherby 205 or head office Melton 2408.) All grades washed aggregates and sand.

Lincolnshire

CONINGRY SUPPLY CO., LTD., Registered Office: The Broadway, Woodhall Spa, Lincs. (Tel.: Woodhall Spa 3150.) Screened limestone, hardcore, pitching, filling, flint, hoggins. Ex quarries or delivered.

DOW-MAC (PRODUCTS), LTD., Tallington, Stamford. All grades of washed sand and gravel. (Tel.: Market Deeping 2301.)

EAST MIDLAND BUILDERS' SUPPLY CO., LTD., 21 Castlehill, Barton-upon-Humber, Lincs. (Tel.: Barton 2189.) All grades washed sand and gravel, roadstone, hardcore, washed silica sand.

HARTSHOLME GRAVEL AND SAND CO., LTD., Hartsholme Wood, Doddington Road, Lincoln. Sole selling agents: Hartsholme Sales, Ltd., 17 West Parade, Lincoln. (Tel.: Lincoln 23391.)

HOVERINGHAM GRAVEL CO., LTD., Hoveringham, Nottingham. (Tel.: Lowdham 517-15 lines.) (For details, see Nottinghamshire.)

HURDISH, J. W., LTD., Victoria Street, Grimbsy (Tel.: Grimbsy 3657) and Caistor (Tel.: Caistor, Lincs. 281.) Building, plastering, concreting, sand, also gravel, ballast, hoggins and roadmaking materials.

PETERBOROUGH QUARRIES, LTD., Sandylands, Maxey, Peterborough. (Tel.: Market Deeping 2355-3 lines.) Quarry at Ropsey, all grades of hardcore and broken stone. (See Northants.)

POLLARD, C. AND SON (TALLINGTON), LTD., Well House, Langton, Peterborough. Pit at Tallington, near Stamford, Lincs. (Tel.: Market Deeping 2140.) All grades washed sand and aggregates. For "Supercrete" ready mixed concrete, "phone Market Deeping 3132."

TRENTFORD GRAVELS, LTD., Head Office: Deansgate, Grimbsy. (Tel.: Grimbsy 5354.) Washed and graded gravel and sand, roadstone, hardcore, slag, tarmac, ashes, etc. Pits and quarries throughout the county.

London

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicestershire. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)

COX, H. AND SONS, LTD., 33 Southampton Way, Camberwell, S.E.5. (Tel.: Rodney 2215-3 lines.)

DANGERFIELD, F. J., AND CO., LTD., 261A Finchley Road, N.W.3. (Tel.: HAMstead 8044-8.) Granite limestone or slag, coated or dry, all sizes and pitching, granite kerbs and sets, felspar quartz and other minerals by road or rail, or ex London stock.

DORSET LIMESTONES, LTD., Bumpers Lane, Easton, Portland, Dorset. (Tel.: Portland 2207/8.) (For details, see Dorset.)

DRINKWATER, W. W. (WILLESDEN), LTD., Dudden Hill Lane, Willesden, N.W.10. (Tel.: GLADstone 6400/5.) Pits: Rush Green, Denham, Bucks. (Tel.: Denham 2241/2/3.) Also Staines Road, Hounslow Heath, Middlesex. (Tel.: Hounslow 6222/3.)

GABRIEL, C., LTD., 100 High Street, Enfield, Middx. (Tel.: Howard 4351/2/3.) Washed aggregates and building sand. Pits at Enfield and Hertford.

HALL AND CO., LTD., Chantrey House, Ecclesall Street, S.W.1 (Tel.: Sloane 7122), and at East Dulwich, Poplar and Wandsworth. Gravel aggregates, concreting, plastering and building sand.

KEEN, W. J. AND SONS, 18 Granville Road, Epping, Essex. (Tel.: Epping 2520.) All sands, ballasts, shingle and hardcore supplied.

LONDON BALLAST CO., LTD., (Tel.: Paddington 5084.) SSA Porchester Terrace North, Paddington, W.2.

REED, P. T., LTD., Green Lane, Green, E.2. (Tel.: Shoreditch 9128/9.) All sands, ballast and shingles supplied and delivered; also ready mixed concrete. Pits: Fairlop Airfield, Forest Road, Ilford, Essex. (Tel.: Hainault 6111/2/3.)

ROADS RECONSTRUCTION (1934), LTD., Stockley Lane, West Drayton, Middlesex. (Tel.: West Drayton 3041.) All sizes broken limestone, dry and coated to British Standards.

Merionethshire

SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington. (Tel.: 961.) Salop.

Middlesex

CROSS, GEO. C., AND CO., LTD., Uxbridge Road, Southall. (Tel.: Southall 2264/5/6.) Concrete aggregates, hardcore, excavations, demolitions.

DRINKWATER, W. W. (WILLESDEN), LTD., Staines Rd., Hounslow Ht., Middx. (Hounslow 6222/3.)

GABRIEL, C., LTD., Palmers Lane, Enfield, Middx. (Tel.: Howard 4351/2/3.) Washed aggregates and building sand. Pits at Enfield and Hertford.

GRUNDON, S., LTD., 79 Harrington Road, Hillesdon, Middlesex. (Tel.: Hillesdon 4152.) Sand, ballast, shingle, hardcore, ashes, excavation and demolition.

HALL AND CO., LTD., Chantrey House, Ecclesall Street, S.W.1 (Tel.: Sloane 7122), and at Ashford and Brentford. Pit at Bedfont, near Feltham. Gravel aggregates, concreting, plastering and building sand.

LONDON BALLAST CO., LTD., (Tel.: Paddington 5084.) SSA Porchester Terrace North, Paddington, W.2.

READ, P. T., LTD., Gales Gardens, Bethnal Green, E.2. (Tel.: Shoreditch 9128/9.) All sands, ballast and shingles supplied and delivered; also ready mixed concrete. Pits: Edmonton, Gravel Pit, Montague Road, N.15. (Tel.: Shoreditch 9128/9.) and Fairlop Airfield, Forest Road, Ilford (Tel.: Hainault 6111/2).

STUART MACEY, LTD., Gordon Road, High Wycombe. (Tel.: High Wycombe 2591/2.)

CONTRACTORS'

GUIDE TO AGGREGATES

MIDDLESEX

THAMES SAND AND GRAVEL CO., LTD., Fordbridge Road, Shepperton. (Tel.: Walton-on-Thames 23616.) Gravel, aggregates, concreting, plastering and building sand.

WRAYSBURY SAND AND GRAVEL CO., LTD., Pits at Wraysbury. (Tel.: Wraysbury 164.) Gravel aggregates, concreting, plastering and building sand.

MID-WALES

BENGRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

OLD RADNOR TRADING CO., LTD., Quarries in Radnorshire. (Kington 11.) (See Herefordshire.)

SALOP SAND AND GRAVEL SUPPLY CO., LTD., Admaston, Wellington. (Tel. 961.) Salop.

TERN HILL SAND AND GRAVEL CO., LTD., Almington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

MONMOUTHSHIRE

IN-SITU CONCRETE, LTD., Victoria Works, Ebbw Vale (Tel. 3032) and Phoenix Works, Cardiff (Cardiff 63311.) for limestone and slag aggregates, ready-mixed concrete, tarmacadam, media, filling, etc., kerbs and pavings.

MONMOUTHSHIRE ASSOCIATED QUARRIES, LTD., Head Office: 38 Chepstow Road, Newport, Mon. (Tel.: Newport 58311/2.) Suppliers of all grades of concrete aggregates, road metalling, pitching stone, tarmacadam and bituminous macadam in limestone, dolomite and blue pennant stone. Quarries throughout the county.

WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Coleford, Glos. (Tel. 3158/9.) (See Gloucestershire.)

MONTGOMERYSHIRE

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

SALOP SAND AND GRAVEL SUPPLY CO., LTD., Wellington. (Tel. 961.) Salop.

NORFOLK

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGilant 2530.) (For details, see Leics.)

FRECKENHAM GRAVEL CO., LTD., The Brook, Sutton, Ely, Cambs. (Tel.: Sutton 391/3.) Washed sand and gravel. Pit: Feltwell.

JOHNSON, C. H., LTD., Station Road, Terrington St. Clement, near Kettering. (Tel.: Terrington St. Clement 248.) Washed and screened gravel, roadstone, washed sharp and fine sands.

NETTERTON STONE QUARRIES, LTD., Pix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamsted 1208/9.) Pits at Netterton. Concrete aggregates, building sand.

THORPE GRAVEL CO., LTD., Harvey Lane, Norwich. (Tel.: Norwich 332434.) Washed and graded aggregates, stone and gravel delivered to all parts of Norfolk and Suffolk.

NORTHAMPTONSHIRE

AMEY'S AGGREGATES, LTD., Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421—10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtney, near Abingdon. (Tel.: Sutton Courtney 358.) Theale, near Reading. (Tel.: Theale 358.) Dorchester, Oxon. (Tel.: Clifton Hampden 236.) Billing, Northampton. (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGilant 2530.) (For details, see Leics.)

BICESTER STONE CO., LTD., Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 238.) Manufacturers and suppliers of all grades limestone, tarmacadam, dry, pitching stone, hardcore, etc.

BILLING GRAVEL CO., LTD., Station Road, Billing, Northampton. (Tel.: Cogenhoe 219.) London Office: 23 Berkeley Square, W.1. (Tel.: Mayfair 6341.)

BRAYBROOK, E. W., LTD., Newton Road, Higham Ferrers, Northants. (Tel.: Rushden 3344 and 3345.) All grades of washed and graded aggregates to B.S.S. Building sand, hardcore.

DOW-MAC (PRODUCTS), LTD., Tallington, Stamford. All grades of washed sand and gravel. (Tel.: Market Deeping 2301.)

DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) Producers of building and walling stone, roadstone, hardcore, broken stone, ashes, sand, gravel and hoggins. Immediate delivery throughout Northamptonshire and adjoining counties.

FERRERSAND AGGREGATES, LTD., Northampton Rock Quarries, Rushden, Northants. (Tel.: Rushden 2354/5.) Largest producers in the county of all grades of high-quality concrete aggregate to B.S.S. Delivers throughout Northamptonshire and adjoining counties.

HOVERINGHAM GRAVEL CO., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

KETTON STONE CO. (Prop. Andrew's Garage), Ketton, near Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica clay, Quarries at Ketton.

MACKANESS, A. J., LTD., Ransome Road, Northampton. (Tel.: Northampton 589.) Producers of all grades of washed aggregates. Building sand, Mortar (lime/sand mortar). Prompt deliveries.

MINI-MARGE AND LIGHTER CO., LTD., Market Chambers, Peterborough. (Tel.: 5534/55.) and Middle End Quarries, Wansford, near Peterborough. (Tel.: Wansford 384/51.) Roadstone, hardcore, broken stone, ballast, ashes, silica clay and sand.

NEWARK (PETERBOROUGH) SAND AND GRAVEL CO., LTD., 127 Eastfield Road, Peterborough. (Tel.: Peterborough 2091.) All grades washed and screened gravel and sand.

PETERBOROUGH QUARRIES, LTD., Sandymoor, Peterborough. (Tel.: Market Deeping 2355.) Efficiently supplying all grades of hardcore and broken stone. Also Wethersfield at Yarwell, Wansford. All grades gravel and sand at Maxey.

NORTHAMPTONSHIRE

POLLARD, C. AND SON (TALLINGTON), LTD., Walk House, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)

STORTON, F. E., LTD., Weedon Road, Northampton. (Tel.: Northampton 3358.) Producers of washed gravel and sand to B.S.S.

WEEDON GRANITE LTD., Head Office: Goldington, Bedford. (Tel.: 4587 8/9.) Largest producer of all grades of washed aggregates in Northamptonshire and Bedfordshire. Regular deliveries anywhere. Local office and pits: Fortly Ford. (Tel.: Welford 256.)

NORTH WALES

CAWOOD, WHARTON AND CO., LTD., Pistyll Gwyn Quarry, Llanarmon, near Mold. (Tel.: Llanarmon-lal 27.) Crushed limestone and tarred macadam, all grades.

CHESHIRE AND NORTH WALES TARRED MACADAM CO., LTD., Llanarmon, near Mold. (Tel.: Llanarmon-y-n Rhw 43.) Hard, broken limestone; dry and coated to B.S.S. Inquiries to Registered Office—Market Chambers, Tower Square, Tunstall, Stoke-on-Trent. (Tel.: Stoke-on-Trent 8894.)

ENSTON BROS., Llwyn Isaaf Quarry, Clynnog Fawr, Caernarfon. (Tel.: Clynnog Fawr 2978.) All sizes crushed, washed natural sand and gravel.

GRIFFITHS CROSSING FACTORY, CAERNARFON, (Tel.: Caernarfon 2353/4.) Crushed granite ex our quarry Pengwern and Gwydy Quarries, Ltd., Treffriw, Llanrwst, Denbighshire. (Llanrwst 38.)

PENMAENMAWR AND WELSH GRANITE CO., LTD., Quarries at Penmaenmawr (Tel.: 2256/8), and at Trevor (Tel.: Clynnogfawr 223.) Caernarfonshire. All sizes and gradings of crushed granite aggregate. Any quantity per day; immediate delivery ex stock. Coarse aggregate also available.

RUTHIN AND DENBIGH TARMACADAM CO., LTD., Denbigh. (Tel.: Denbigh 75.) Lime, limestone, carbonate of lime, tarmacadam, etc. Also inquiries to Lunt Bros., Ltd., 23 Colmore Row, Birmingham. (Tel.: Centaur 7408—4 lines), and Lunt Bros., Ltd., Stourbridge. (Tel.: 5201—6 lines.)

TERN HILL SAND AND GRAVEL CO., LTD., Almington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

NOTTINGHAMSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGilant 2530.) (For details, see Leics.)

GLEN QUARRIES LTD., Central Chambers, Wellgate, Retford, Notts. (Tel.: Retford 5223.) Crushed and graded stone, concreting sand, building sand, plastering sand and crushed gravel; could be collected ex quarry or delivered.

GUNTHORPE GRAVELS (1958), LTD., (Tel.: Gunthorpe 77357.) and Works: Lowdham 2131.) (An associate company of T. C. Campbell, Ltd.) All grades washed gravel and sand to B.S.S.

HOVERINGHAM GRAVEL CO., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) Quarries at Hoveringham, Horncastle, Pickering, Colwick, Blesby and Newark. All grades of washed gravel and sand to any specification. Crushed quartzite for surface dressing of roads a specialty. Plant capacity 8,000 tons per day.

NEWARK GRAVEL AND CONCRETE CO., LTD., Grove Street, New Baldwin, Newark, Notts. (Tel.: Newark 401.) All grades washed sand and aggregate.

NORTH NOTTS. GRAVEL CO., LTD., Bellmouth, Retford, Notts. (See Yorkshire.)

PRESTWICH, WILLIAM, AND SONS, LTD., Dronfield, Derbyshire. (Tel.: 2204—6 lines.) Dry and coated Derbyshire limestone and slag for all purposes and to all specifications. Haddon foamed slag blocks.

SALISBURY AND WOOD, LTD., Matlock. (Tel.: 272/273.) (For details, see Derbyshire.)

OXFORDSHIRE

AMEY'S AGGREGATES, LTD., Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421—10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtney, near Abingdon. (Tel.: Sutton Courtney 358.) Theale, near Reading. (Tel.: Theale 358.) Dorchester, Oxon. (Tel.: Clifton Hampden 236.) Billing, Northampton. (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGilant 2530.) (For details, see Leics.)

BICESTER STONE CO., LTD., Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 238.) Manufacturers and suppliers of all grades limestone, tarmacadam, dry, pitching stone, hardcore, etc.

CURTIS, J. AND SONS, LTD., Botley Works, Oxford. (Tel.: Oxford 41081/2/3.) Sand and all grades of washed aggregates. Pits at Radley, near Abingdon. (Tel.: Radley 441/2.)

DANGFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMPstead 8044/8.) For all road aggregates, kerbs, sets. (See London.)

DIX, G. H., AND SON, LTD., Freeland, Oxon. (Tel.: Freeland 234.)

DUSTON STONE QUARRIES LTD., New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) See Northamptonshire.

GRUNDON, S. AND WELME, LTD., Welme, Oxon. (Tel.: Ewelme 20.) London Office (Tel.: Uxbridge 4156.) All grades washed aggregates. Path hoggins, broken stone, building sand.

HAINES, H., (WITNEY), LTD., Oxford Road, Witney. (Tel.: Witney 42.) All grades washed aggregates, hardcore, pitching and broken stone, Cotswoold building and walling stone.

NETTERTON STONE QUARRIES, LTD., Pix Farm Lane, 49a Hemel Hempstead, Herts. (Tel.: Berkhamsted 1208/9.)

WRAYSBURY SAND AND GRAVEL CO., LTD., Theale, Reading, Berks. (Tel.: Theale 373.)

RADNORSHIRE

BENGRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

RADNORSHIRE

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

OLD RADNOR TRADING CO., LTD., Quarries in Radnorshire. (Tel.: Kington 11.) (See Herefordshire.)

SALOP SAND AND GRAVEL SUPPLY CO., LTD., Wellington (Tel. 961.) Salop.

RUTLAND

HOVERINGHAM GRAVEL CO., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

KETTON STONE CO. (Prop. Andrew's Garage), Ketton, near Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica clay. Quarries at Ketton.

PETERBOROUGH QUARRIES, LTD., Sandymoor, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)

SCOTLAND

KEIR AND CAWDER, LTD., Kirkintilloch Road, Bishopbriggs. (Tel.: Bishopbriggs 3200.) All grades washed sand and gravel aggregates.

SHROPSHIRE

BALLIDON QUARRIES, LTD., Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621 and wet mix; large output; reliable deliveries.

BENGRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

DUNNING AND SON, LTD., Haughmond Quarry, near Shrewsbury. (Tel.: Upton Magna 286/7.) All grades of high-quality roadstone, concrete aggregates and coated macadam. All to B.S.S. Any tonnage available for immediate delivery.

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

OLD RADNOR TRADING CO., LTD., Kingston. (Tel.: 11.) (See Herefordshire.)

SALOP SAND AND GRAVEL SUPPLY CO., LTD., Admaston, Wellington (Tel. 961.) Salop.

TERN HILL SAND AND GRAVEL CO., LTD., Almington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

TRENTHAM GRAVEL CO., LTD., Lordship Quarries, Willoughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concreting sand. Plastering sand. Plant capacity: 2,000 tons per day.

SOMERSET

ASHAM QUARRY CO., LTD., Chantry, Frome. (Tel.: Nunney 351.) All sizes limestone block, broken and aggregates. Tarred and bituminous macadam to B.S. Ex quarry and delivered.

DANGERFIELD, F. J., AND CO., LTD., 216A Finchley Road, London, N.W.3. (Tel.: HAMPstead 8044/8.) For all road aggregates, kerbs, sets. (See London.)

GILSON, S. C., AND SONS, LTD., Holcombe, near Bath. (Tel.: Stratton-on-the-Fosse 243.)

HALL AND CO., LTD., Longmoor House, Ashton Vale, Ashton. (Tel.: Ashton 5301.) Granite aggregates, concreting, plastering and building sand.

ROADS RECONSTRUCTION (1954), LTD., Stoneleigh House, Frome. (Tel.: Frome 2361.) All sizes broken limestone, dry and coated, to British Standards. Precast concrete products.

WAINWRIGHT, JOHN, AND CO., LTD., Shepton Mallet. (Tel.: Shepton Mallet 2366/7.) All sizes basalt, coated basalt, concrete aggregates, filtering media, building blocks and slabs.

SOUTH SCOTLAND

ESK MANUFACTURING CO., LTD., Carlisle. (Tel.: Carlisle 2-4941.) (For details see Cumberland.)

SOUTH WALES

IN-SITU CONCRETE, LTD., Victoria Works, Ebbw Vale (Tel.: 3032) and Phoenix Works, Cardiff (Cardiff 63311.) limestone and slag aggregates, ready-mixed concrete, tarmacadam, media, filling, etc.

PENMAENMAWR AND WELSH GRANITE CO., LTD., 18 Quay Street, Cardiff. (Tel.: 2046/7.) All sizes and gradings of crushed granite aggregate from our Cardiff and Swansea Dock Depots. Dolomite aggregates from Ewenny Quarry, Bridgend. (Tel.: Bridgend 3786.) Coated stone also available.

SESSIONS AND SONS, LTD., West Driffield. (Tel.: 2046/7.) Coated sand and fine aggregate, dredged and graded to British Standards. Branches: Newport and Swansea. (Also Gloucester and Hereford.)

SOUTH WALES SAND AND GRAVEL CO., LTD., Head Office: P.O. Box 8, Beaumaris Buildings, Swansea. (Tel. Swansea 53071.) Sand and gravel merchants, builders' merchants, Pendant Quarry owners, slag, hardcore, ashes, filling, graded clinker filter media. Depots: Cardiff, Newport, Barry, Port Talbot, Briton Ferry, Swansea, Llanelli.

STAFFORDSHIRE

BALLIDON QUARRIES, LTD., Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621 and wet mix; large output; reliable deliveries.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicestershire. (Tel.: VIGilant 2530.) (For details, see Leics.)

CRADOCK GRAVEL LTD., Cheadle, Stoke-on-Trent, Staffs. (Tel.: Tean 393.) Manchester Office: Blackfriars 3766/7. Plant capacity, 2,000 tons per day.

CONTRACTORS' GUIDE TO AGGREGATES

STAFFORDSHIRE

DUNNING AND SON, LTD., Wood End Gravel Pits, Hedgesford. (Tel.: Hedgesford 302/325.) Washed sand and gravel, up to B.S.S. High-quality road-stone, concrete aggregates and coated macadam from the Haughton Quarry, near Shrewsbury. (See Shropshire.)

GRAVEL HILL SAND QUARRIES, LTD., Tel.: Ashby (Leics.), 79. (See Leicestershire for details.)

HILTON GRAVEL, LTD., Cheddle, Staffs. (Tel.: Tean 241.) Also at Longton, Stoke-on-Trent. (Tel.: Longton 32196) and Stretton, Burton-on-Trent. (Tel.: Burton 6061.)

HULLAND GRAVEL CO., LTD., Cheddle, Stoke-on-Trent. (Tel.: Cheddle 2323/4, 2171 and 2195.) Manchester Office: 464 London Road, Chorlton, Manchester. (Tel.: Chorlton 2274/5.)

PRESTWICH, WILLIAM, AND SONS, LTD., Dronfield, Derbyshire. (Tel.: 2204—6 lines.) Dry and coated Derbyshire limestone and slag for all purposes and to all specifications. "Haddon" foamed slag blocks.

RUGGELEY GRAVEL CO., LTD., Rugeley Quarries, Rugeley, Staffs. (Tel.: Rugeley 251/2.) Entirely modern plant. Sand classifiers. Finest aggregates to B.S.S. Large output.

SALISBURY AND WOOD, LTD., Matlock. (Tel.: 272/273.) (For details, see Derbyshire.)

SHIRE OAK GRAVELS, LTD., Lichfield Road, Walsall Woods, Staffs. Washed crushed gravel and washed sand. (Tel.: Brownhills 3253.)

TERN HILL SAND AND GRAVEL CO., LTD., Almington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) Pit sand, concrete sand, and all grades of washed crushed gravel. Hardcore, clinkers, ashes and hoggin.

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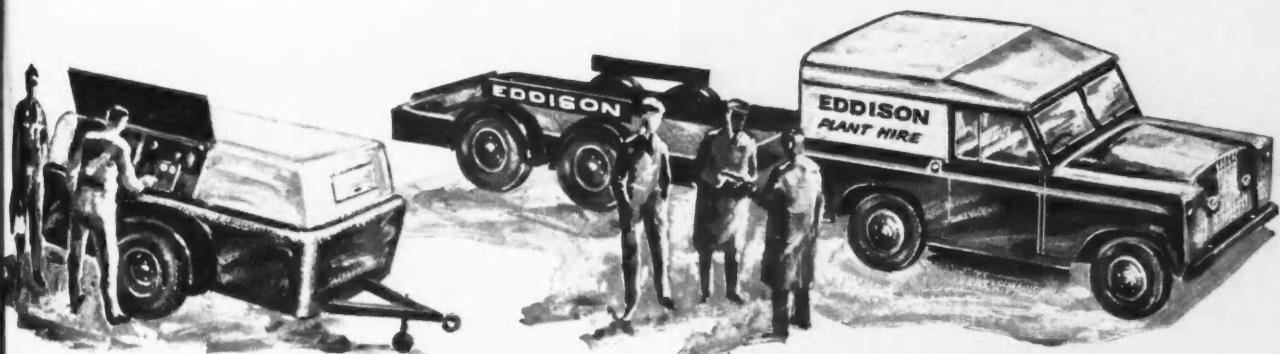


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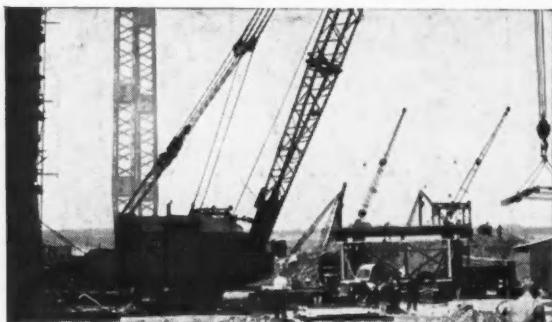
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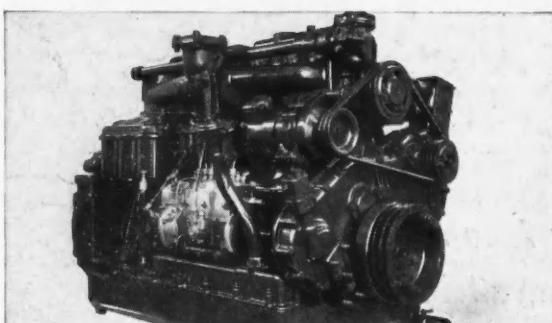


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